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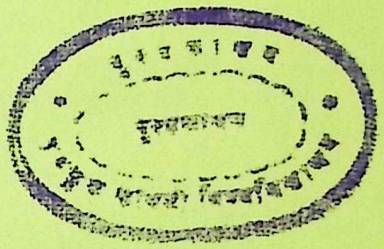

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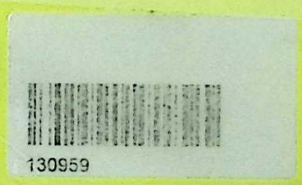

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Occupational Choices and Leisure Time Activities Among Nigerian Students

P.N.O. Tharakan
Department of Psychology University of Calicut Kerala

The present study investigates the relationship between occupational interests and leisure time activities among Nigerian students. The study also attempts to find differences in the occupational choices and leisure time activities among Urban and rural population. The results suggest a positive relationship between the leisure time activities and occupational choices among secondary school children. The result indicate a significant differnces in occupational choices and leisure time engagement among students from urban and rural backgrounds.

INTRODUCTION

In recent years a number of investigators have studied the interaction between work and leisure (Parker, 1971., Angyle, 1972 ., Williams, 1977), and several alternative explanations of the relationship between these two areas of behaviour have been proposed. Holland (1973) has suggested that both vocational and leisure time activities are related to the personality category which the person most resembles. parker (1971) has identified three typical ways in which people tend to relate their work to leisure. He suggested that pople whose leisur activties are similar to work are said to follow an extension pattern. moreover those whose leisure activities are deliberately different from their work or occupation are described as following an oppsiton pettern. The neutrality refers to situatons where rork. leiseure ctivities without any deliberate intension, leisure activities differ somewhat from According to parker a person's work leisure pattern is determined by his work situation and the amount of intrinsic satisfaction which it offers. Holland and Gottfredson (1979) also acknowledged the influence of environmeut on leisure time activities, occupational choices, and work pattern.

Dr. P.N.O. Tharakan worked at the University of Jos' Nigeria for five years.

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The purpose of the investigation was to find out the pattern of occupational choices and leisure time activities among Nigerian school children. The study also aimed at finding out the differences in vocational choices and leisure time engagement of students belonging to urban and rural background.

METHOD

Sample : The sample was drawn from the final year students of four secondary schools in Plateau States. The Plateau State is situated in the middle part of Nigeria, where thepopulation is mainly composed of Christians and Muslims with different ethnic subgroups of tribal systems. Two schools were randomly selected from the urban background and another two schools were randomly selected from the rural background. Sixty male students and another sixty female students were randomly selected each from urban and rural population.

Meterials : In order to study the occupational choices of students, a vocational Interest inventory consisting of 30 items was used. In the preparation of the inventory, special care was taken in order to include all the available job opportunities existing in Nigeria. Similarly, a leisure time check list consisting of 30 items was used. A pilot survey was conducted in some of the urban and rural areas of Plateau State, and from the pilot study a modified form of Leisure time Check list was formulated.

Procedure : The subjects were asked to rank their occupational choices and leisure time activities separately. The subjects were instructed to rank from '1' to '30' according to their order of preferences. The rank of '1' was given to the most preferred occupational choice or the leisure time activity and the rank of '30' indicate the last preferred occupation or leisure activity. In this way the mean scores of each group was computed

RESULTS

The scores on the occupational choices were correlated with scores on the leisure time activities. The product moment correlation co-efficient was computed to find the relationship. The relationship was found to be significant at .001 level (r=.53, P .001).

Table-1 : Correlation values of Occupational choice and Leisure Activities

Items	Df	r	f
Occupational choices and Leisure activities	118	.53	P .001

The difference in the choice of occupations between urban and rural male subjects was tested by using the t-test, and the difference was significant at .001 level (t=17 .847, p .001).

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Table II : t- test Values for urban and rural males in the occupational choice.

Residence	Sex	X	S.D. Combined	t-value	P
Urban	Male	12.31	0.560	17.847	P .001
Rural	Male	14.88			

Similarly, the difference in the leisure time activities between the urban and rural male subjects was tested byusing the t-test. It was found significant at .001 level. (t= 11.244, P .001)

Table-III t-test values of male urban and rural subjects in their leisure time activities.

Residence	Sex	X	S.D. Combined	t-value	p
Urban	Male	15.59	0.879	11.244	P .001
Rural	Male	18.12			

DISCUSSION

The result of the study indicate that there is significant relationship between the occupational choices and leisure time activities among the secondary school children. The result has also been supported by the findings of Taylor, Kelso, Cox, Wand and Jane (1979). From their findings, leisure time activities were found to be related to occupational choices. When we compare the mean scores of the male subjects from the urban and rural areas, their choices of occupations show some differences. The male urban boys preferred jobs such as Accountant, Doctor, Engineering etc. While the rural male subjects opted jobs such as secretaryship, Lawyer, Agriculture etc. At the same time, the urban females showed their preferences for occupations such as Nursing and Teaching while the rural girls preferred teaching as a carter. This result is in line with Krumboltz (1975) one of the primary proponents of social learning in career behaviour. Vocational behaviour is seen to result from an interaction of genetic endowment, preferences and skills learned as a result of environmental contingencies and present emotional limitations.

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Regarding the leisure time activities of urban boys it is found that they liked very much in visiting scientific and technical displays, fairs, reading books and magazines on scientific and technological subjects. Their interests are also centered on sports and attending to parties. On the other hand, the rural boys wish to spend their leisure time in activities like repairing or mending things, outdoor sports, hunting etc. On the contrary the urban girls preferred spending their leisure time in activities like taking part in guides, scouts, youth groups, attending sport events, social gathering with friends, helping and to raise funds for a charity etc. Girls belonging to rural areas wanted to spend their leisure time in activities like cooking, gardening working with children in play groups, teach to junior children, visiting the sick and handicapped.

Looking at the mean scores on the various leisure time activities by the urban boys and rural male subjects it is found that the urban boys are serious in their leisure time activities than rural boys. But among the urban and rural female subjects their major leisure activities are dominant in jobs related to domestic group activities, working with children in play groups or teaching them. Although girls and boys are equally interested in going to parties. These results are supported with the findings of Diamond (1981). His finding provided clues to sex typical and sexatypical interest in occupational choices and interest of these groups. Morcover, the differences is also attributed to environmental factors. Insel moos (1974) have in their contribution domonstrated that characteristics of person, background, sitation and interest will influence one's leisure activity.

It is concluded that there is need for orientation in vocational guidance and counselling among secondary school children.

The secoudary school children are not exposed to other available job opportunities and leisure activities in the Society.

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A study or correlation between knowledge and adoption of Hybrid maize cultivation Practices among trained and untrained farmers

Manjunath, L., Sethu Rao, M.K., Budihal,R.A. and Nidagundi, F.R.

INTRODUCTION

The essential feature of the agricultural development is adoption of an inovation and further diffusion on large scale. This depends on readyness of the farmers to accept and new technology which is possible by increasing knowledge about the technology and persuading them, to adopt. It is also preved that farmers training programmes enhances the knowledge level of farmers and it is expected to result in increased adoption. This depends on the extent of correlation between knowledge level and adoption behaviour of farmers. An analysis of this correlation would help the people concerned to redesign the training syllabus for better impact. Keeping this in view, it was decided to study correlation between knowledge and adoption of recommended cultivation practices of hybrid maize between trained and untraind farmers.

Review of Literature : Ganesh (1975) found that there was significant correlation between the knowledge gained in the training and consequent adoption by the participants.

Gangadharappa (1979) in his study on farmers training observed significant difference between the correlation value of trained and untrained farmers.

METHODOLOGY

The study was conducted in 8 villages spread over 4 talukas of Bijapur. Belgaum district of Ghataprabha command area of Karnataka State. The sample consisted who had grown hybrid maize and another 88 mathed farmers of 88 Trained Farmers who were not trained at the farmerstraining centre. The data was collected with the help of a schedule by personal interview method. Pearson correlation coefficient were employed to findout the extent of correlation and to test the significance of difference.

Manjunath L. and Nidagundi F. R. are Assistant Professors of Agricultural Extension, University of Agricaltural Sciences, Dharwad Sethu Rao M. K, is Prof. and Head Dept of Agril. Etension, University of Agricultural Sciences, Bangalore, Budihal, R. A. is the Training Organiser. Krishi Vigyan Kendra, Bidar

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Table-1 Correlation between knowledge and adoption of recommended cultivation practices of hybrid maize between the trained and untrained farmers.

Sl. No.	Farmers categories	Correlation value	Remarks
1.	Trained farmers	0·7355	2·0835*
2.	Un-trained farmers	0·5488	

*Significant at 5% level.

RESULT AND DISCUSSION

It could be inferred from the table that correlation value was high in case of trained farmers as compared to untrained farmers. The correlation co-efficient value of trained farmers between the knowledge level and subsequent adoption was Significantly high, when compared to the carrelation co-efficient of untrained farmers. This clearly indicated impact of training. The test of significance also indicated significant difference between trained and untrained farmers. This may be due to the fact that as the level of information increases the adoption is more likely to occure as self generated pressure towards adoption increases.

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The Effect of Anxiety on Memorization

N. M. Bhagia* & H. R. Pal**

The Present era is an age of anxiety. There Seems to be race for every thing in field of life : every individual wants to go ahead. The lives of people are packed with uncertainly, frusfrations, conflict, insecurity and many endless problems, which generally produce anxiety. It is found almost with all people in its varying degree of intensity. It plays an important role in shaping the personality and behaviour of an individual. It affects the interest, level of aspiration reaction time, need-achievement, intelligence, eye lidconditioning and and other aspects of individual life. Various researche have been conducted with the anxiety and other variables such as level of aspiration, sex, eyelied conditioning, blood pressure, relegious attitude, self concept etc, but very few researches are done to see the relationship between anxiety and memorization as Faber and Spence (1953), Montague (1953), Korchin & Levine (1957) and Sinha & Krishna (1957). This clearly indicates the importance of conducting research in this area.

Sample : A random sample of 200 students studying in class IXth was selected from the four H. S. Schools of the Indore city for the purpose of data Collection.

Tools Used : (a) Sinha W. A. Self Analysis Form

In the present study the anxiety of students was measured with the help of Sinha's anxiety Scale (Hindi version) This scale has been standardised by Dr. Durganand Singha Professor & Head Deptt. of Psychology Allahabad University, in the light of Indian culture and social environment. The scale consists of 100 statements. These are releted with our daily life problems. These statements are qresented to the subjects and they were asked to mark their personal positions in 'yes' and 'no' towards them.

(b) For measuring the memorization of the students a list of 20 Nonsense syllables was used.

Procedure of data collection : In the begining rapport was created in small groups with students in class room. After that Sinha's anxiety scale was administered and their responses were collected. The booklet were scored according to the manual. After scoring

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on anxiety the subjects were chosen with the help of 90th 10th & 45th and 55th percentiles i. e. students above 90th percentiles were selected for High anxiety group, students below 10th percentiles were selected for low anxiety group and students between 45th and 55th percentiles were selected for moderate anxiety group.

In the second phase A list of 20 nonsense syllables was exposed to them from memory drum till one perfect recall of the list, to all the three groups. After it the subjects were given one hour rest and then again asked to recall the same list. The responses were noted for all the three groups.

ANALYSIS AND DISCUSSION

After collecting the data the means of total syllables rightly recalled for each group i. e. High. Moderate and Low, were calculated. Then the Duncans Range Test was applied and the effect of anxiety on memorization was seen.

The same is presented in Table 1

Table-1 Table showing anxiety effect of Low, Moderate and High anxiety group on memorization of nonsense syllables

N=30 (10 in each group)

Groups	Mean	SS	Se.	df=(N-3)	Mean difference
Low Anxiety	9·4	36			Between L-H=3·52xx
Moderate Anxiety	7·08	26·1	1·78	27	Between L-M=2·32xx
High Anxiety	5·8	22·5			Between M-H=1·28NS

SS=Sums of square

xx=Significant at .01 level

NS=Not significant

Looking to the able 1. the following observations are made.

(i) The obtained value of means and sums of square of these group (Low, Moderate and High) on nonsense syllables for memorization are 9.4, 7·08 & 5·88 and 36·0, 16·1 and 22·5 respectively.

(ii) The difference of mean between low and High and low and Moderate are 3·52 & 2·32 both these difference are significant at .01 level.

(iii) The difference of mean between Moderate and High anxiety group is 1.28 which is not significant.

This indicates that individuals having low anxiety are not disturbed by others. They can adjust themselves with the various circumstances and act accordingly. They are generally found to be alert, sensitive, perceptive to peak performance and responsible

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towards duties. They do their work attentively with interest and generally don't feel excited by failure tensions as well hopes and successes etc. Due to these characteristics in their nature the individuals of low anxiety try to learn and memorize the learned material sincerely.

More or less the characteristic of high and moderate groups of anxiety are similar. The people of these classes experience, perceive, think, act and express their views in the same manner but with a difference of some degree of intensity.

They are having the feeling of restlessness, fear, depression. apprehension, lack of concentration etc. At the same time they experience painful muscle cramp of the finger head or leg prefuse sweating dialation of pupil, dryness of mouth over breathing etc. These things are found in acute form with high anxiety groups. Where as the same characteristic are existing with a little less force among the individuals of moderate anxiety groups.

Now by the above discussion it is quiet clear that there is real difference on memorization between low with high and moderate groups of anxiety. The above findings are supported by Faber and Spence, Montague (1953) Korchin and Levine (1957) & Sinha and Krishna (1970).

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Early Childhood Education in the State of Assam

*Jyotsna Boruah

The enterprise of early childhood education today is a far cry from these simple arrangements, having transformed itself into a profession complete with an organisational basis, trained personnel, and a research enterprise. Moreover, a steadily rising proportion of children under the age of six have experienced care and education outside their homes. Never before in Assam history has there been such a demand for preprimary education. Despite these remarkable advances, however, the institution of early childhood education remains on the periphery of the educational establishment, and as yet, less than one fourth of Assamese children under the age of six years are exposed to preprimary schooling. Despite of the impressive growth of the institutions for early childhood education, it has faild to influence the education for small children in the state.

The models of early childhood education is designed specially for the youngesters under age of six for their total development with a provision for extra familial education before they are considered old enough to enroll in formal schooling.

Growth of Early Educational System in Assam

The early childhood education in the history of Assam has begun with annexation of Assam by the British in 1926. The conditions of early education in the state was deplorable till the last decade of 19 century, It was mainly through the initiative of voluntary organisations and private enterprises, the preprimary education have come into force. These were almost entirely in urban areas, except a few belwadis in the rural areas run by Ghadhiji constructive workers.

The progress of preprimary education in the state has been very slow. In 1942 there were two infant schools in the province. In 1947, These increased to four. However after indeoendance, the preschool education has received a much greater attention. In 1960-61, there were 43 schools with and enrolment of 2,227 children. A number of other schools also had preprimary classes attached to them. The total number of pupils in both preprimary schools and the preprimary classes in 1960 61 was 7,547. The number of preprimary institutions in the year 1979-80 was 482 excluding balwadis and Anganwadis

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Till January 1981, the number of preprimary institution sewained consistant of which 41 instutions are under private management but recognised by the state department of Education by sanctioning grant-In-Aid, and the rest are primary school with preprimar lasses attached to it.

Table-I : Number of Preprimary Classes with enrolment of Children in the Primary Scools of Assam.

Year	No. of Preprimary Classes	Enrolment		
		Boys	Girls	Total
1975-76	285	8,651	7,447	16,098
1976-77	307	9,289	8,336	17,622
1977-78	297	5,992	4,972	10,964
1978-79	263	8,993	7,870	16,963

Source : Office of the Directorate of Public Instruction, Assam.

The Government of Assam intiated a scheme as early as 1962 to recognise the five class lower Primary Schools by disignising the first two classes (A and B) as preprimary classes and to appoint full time teachers exclusively for Preprimary sections in the lower Primary schools in a phased manner, Under the scheme, 473 additional teachers were appointed in Assam against 473 recoganised lower primary schools to look after the preprimary sections.

While abolishing the classes A and B from the five class primary School, the Education Commission suggested for 10+2 Pattern of schooling at high and higher secondary school level and revised the age of admission in primary class from the age 6+, and the age of 3+ for admission in the preprimary Classes. The number of teachers in these establishment varies depanding on the number of children enrolled with the ratio of teacher and children as 1 : 45 on an average.

Most of the preschool institutions works from 10 A. M for 3 to 4 hours a day. Usually, there are two or three classes in the preprimary sections The lowest class is termed as Nursery and then next is kindergarten for two years programme and some-times as Nursery, Kinder garten I and II for three years program me.

It may be pointed out that a number of legislation has so far been snacted to establish, develop, and regulate the preprimary education in the state excepting the references made in the preamble and section 3 (3) of the Assam Elementary Education (Provincialisation) Act, 1974 in respect of provincialisation of services of the personnel of the preprimary schools. Goverenment is paying no more attation except sanctioning grant in and to the institution offering early Childhood education in the state,

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It is important to note the welfare schemes under the initive of Central Social Welfare Board, a number of balwadis were set up in Assam during fifteens. Now there are more than 50 balwadis in rural and semi urban areas run by the voluntary organisations with the financial support from the Board, Directorate of Panchaya and Community development etc. A similar scheme of ICDS (Integrated Child Development Service) for the welfare of children below 6 years and mothers were taken up in the year 1975-76 on an experimental basis in 33 selected projects, In was expanded to 67 projects in 1978-79 and 50 projects in 1979-81 and another 50 projects in the year 1980-81. One of the main function of the scheme is for care and non-formal education of children in the rural, slums and urbon areas Through Anganwadi Centres.

Teacher Training : The Professional education of preprimary school teachers has been a sadly neglected field in the state of Assam. It has been and continues to be "No-Man's-Land". Different study groups and commissions have been appointed by the Government for Primary, Secondery and Higher education but not for preprimary education. Inspite of the various recommendations made by some commissions, like child care Committee, the Kothari Commisson, the Ganga Sharan Committee etc. no further steps have been taken up for implimention and follow up programme in this line. There is only one institution for training of prepaimary teachers at the state level in the district of Dibrugarh, established in the year 1963. Since Government has not taken ihe intiative as far as the development of teacher training is concerned naturally private and voluntary organisations have taken the lead in organising training programmes accoring to their own understanding. Minimum standards and requiremente for teacher training have not been laid down, hence we are confronted today with problems of having no uniformity of standards in the programmes offered in various institutions.

Table-II : Number of Teachers in Preprimary Classes in Assam, :

Year	Male	Female	Total
	TRAINED		
1975-76	1	108	109
1976-77	1	110	110
1977-78	—	123	123
1978-79	—	89	89
1979-80	N. F.	N. F.	——
	UNTRAINED		
1975-76	2	226	228
1976-77	9	224	233
1977-78	11	201	212
1978-79	11	200	211
1979-80	N. F.	N. F.	——

N. F : Not Finalised

Source : Office of the Directorate of public Instruction Assam.

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Dearth of trained teacher is the result of failure in the scheme of early Childhood education. The number of untrained teachers are more than double the number of trained teachers as employed in various Pre schools in the state. The total number of teachers were also increased slighty in the year 1976-77 and has declined after 1978, as the number of teachers varies with the number of children edrolled in the school.

Thus a review of the early childhood education through preprimary institutions clearly brings out the fact that despite of the various steps that were taken up, not much attention has been given to the early childhood education for the young-steps. Till date there is no official recogning of preprimary education not there is any minimum standard laid down. The housing condition, equipment, staff and the conditions of services of private institutions very enormously from institution to institution. There is no proper method followed in the non-formal method of teaching. Looking to the present child population of 115 million between 3 to 6 years much is still to be desired.

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A Socio-Psychological Study of Some Convicted Delinquents

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INTRODUCTION

Delinquency is a vital area of human concern. It is not a recent Phenomenon. It has been a part of human behaviour since man started living in society. The increasiug rate of crime and delinquency in India and abroad has drawn the attention of social thinkers, psychologists, educationists, administrators and others towards this baffling problem of human society.

Legally speaking when a child below 18 years of age becomes the subjects of official acton. it is termed as a juvenile delinquency. The age limit, however, differs from country to country ranging from 16 to 20 years.

Surprisingly enough the ege of delinquent, prevalen laws and behavioural meaning of the term varies from country to country, and from time to time. People with different attitude and having different socio-economic background assign different meaning to the term Delinquency.

The term juvenile delinquent has been defined by different persons and in different ways.

It my be defined as a social offence committed by a young person below the age of eighteen, for a number of times, which if committed by an adult, would be considered as a crime. From the socio-cultural point of view it is a pattern of adjustment that deviates form the code of conduct society is attempting to enforce.

Truly speaking, legal definition of delinquent does ont conform to its psychological definition. Psychologically speaking, delinquency is not a distinct entity, but rather one from of emotional disturbance. It is built out of conflict, and it is intended to serve as a way of meeting of covering up a problem. Its motivation is generally unconcious.

A delinquent is essentially a male adjusted child who creates difficulties for others and who is himself blocked in his Wholesome growth. It is a form of social disorganization. Juvenile delinquents are problem children but all problem children are not delinquents.

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Cyril Burt writes, "Delinquency occurs in a child, when his anti-social tendencies appear so grave that he becomes the subject of official action." James, S. plant emphasises certain personality factors. According to him, "Juvenile delinquents are young people who havitually respond to serious and prolonged frustration in an aggressive way." According to Healy, "A child how deviates from the social norms of behaviour is called as delinquent." Coleman writes, "Delinquency refers to behaviour by youth under 18 years of age which is not acceptable to society and is generally regarded and calling for kind of admonishment. punishment or correctional action."

The problem of delinquency has attracted the attention of many researchers in different fields, mainly, psychology and sociology. Sociologists have tried to probe into the causative factors of delinquency (Clinard, 1942; Cohen, 1955; Clowand and Ohlin, 1960; Merrindale 1966: Degler, 1968; Das, 1975; and Swanter, 1977) and conceptualized delinquency as social phenomenon. On the other hand , psychologists have attempted to identify delinquency through psychodynamic procedures (Schachtel, 1951; Johnson and Szwerek, 1952; Stotle. 1959; Raychoudhuri et al., 1969; Shanmugam, 1975). Personality aspect of the delinquents have been studied by Gopal Krishna, 1956; Bosk, 1960, Pati, 1966: Mathur and Kumar, 1967; Rejeshwari, 1967; Shanmugam, 1967; Mukerjee and Basu, 1980).

These studies throw considerable light on different aspects of delinquency. However, most of the studies have dealt with juveniles more and less with adolescent offenders who may be quite different from the children in their personality characteristics reactions to environmental forces and eveu in tne expectations of others. Adolescence is a period of storm and stress and may be considered a very critical and crucial one from the point of personality development.

regardin legal treatment the juveniles and adolescents are treated differently. According to Rajasthan Children Act, 1970, juvenile delinquents in the age group of 7-16 years are kept in Observation Homes run by Social Welfare Department, where emphasis is given on reform. Delinquents in the age group of 16-21 years are examined by Session Court and are kept in Reformatories.

There is need to understand these adolescents or youthful offenders separately with regard to their personality characteristics and causal factors for their ill state, so that adequate corrective and preventive measures can be taken. The present study was undertaken with a view to probe into the environmental forces which acted upon them and to understand the intellectual and personality aspect of delinquents who are convicted and residing in the Reformatory of Udaipur Central Jail.

The following objectives were set for the present study :

(1) To study the personality characteristics of the delinquents.
(2) To measure the intelligence of the delinquents.
(3) To find out the probable causes of their delinquency.
(4) To find out their attitudes towards family and society.

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METHOD

Case study method was adopted mainly for the present study, as it has been suitable for the study of delinquents.

Sample : The sample of the study consisted of 12 convicted delinquents residing in the Reformatory at Udaipur Central Jail. Size of the sample was small as it was dependent on the availability of cases . The sample consisted of only male subjects above the age of 16 and below 21 years.

Tests and Tools : For the collection of data the following tests tools were used :

(1) Personal data-blank.
(2) Cattell's Culture Fair Intelligence Test (Scale-3) Form-A.
(3) TAT (Thematic Apperception Test-Indian adaptation by Uma Choudhury).
(4) Interview.

Procedure : For collecting the data authors visited the Reformatory in Udaipur Central Jail. Tests were administered and interview held by the researchers individually with each subject. The data obtained were analysed using suitable techniques.

Interpretation of Data and Discussion : Analysis of data revealed that 91·66% of the subjects were Hindu. About 58.33% of the subjects belonged to Scheduled Castes and Scheduled Tribes-and only 25% of the subjects belonged to upper castes, In this connection, it may be noted that poverty, low-socio-economic-status, lack of education are more related with Scheduled Castes and Scheduled Tribes.

Regarding offences committed by the subjects, it was found that 41.67% of the subjects, were convicted for murder and 41.67% for theft of various types. Only 16.66% of the subjects were convicted for rape.

It was alarming to note that 66.66% of the subjects belonged to lower-socio economic-status. Poverty has been found to be associated with delinquency by many researchers.

It was also found that 75% of the subjects belonged to rural areas. The educational level of the sample was very low and 4 out of 12 subjects started education after conviction.

With regard to birth order it has already been documented by researchere that ordinal position bears an important relationship to personality characteristics and behaviour (Sampson, 195 ; Mukerjee and Kundu, 1961; Murrell, 1974). In the present study 66.66% of the delinquents were either first child or third (middle) child. It may be understood that first child is often overprotected or pompered and if belongs to large family, he has to share the responsibility of the family from a very young age which crush down their child like tendencies undeveloped and make them matured untimely bringing them in contact with other people. Whereas the middle child is often neglected in the family, falls easily in bad company.

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It was also found that 66.66% of the subjects were more attached with their mother. Most of the subjects were found to come from large size families. Parents of the subjects were mostly illiterate. In such conditions father being engaged in farming or service the responsibility of child rearing was solely on mother who generally had been liberal and could not apply supervisory control over the child.

No behaviour abberation was found in the families of the delinquents. However most of the subjects had drinking habit. Here it should be noted that drinking is an accepted norm in the Scheduled Caste, Scheduled Tribes and other lower castes and they do not consider it as behaviour abberation.

Lack of adequate recreational facilities often results in involvement in anti-social activities by the adoliscents. In the present study 50% of the subjects were found to pass time in roaming and wandering in market places or streets, 33.33% of the cases had interest in music, sports or cinema, and 25% of cases had no outdoor activities.

The study revealed that 41.67% of the subjects had association with anti-social elements and had previous anti-social involvement. But the study revealed that only 16.66% of the cases had been jailed previously for minor offences.

Regarding the motive behind participation in crime it was found that 33.33% of the subjects were forced to commit crime because of the association. 25% of the subjects did it for money or to lead an easy going life. The spirit of adventurous and heroism led the subjects to rape. Similar trends of results were observed by Mukerjee and Basu (1980) in their study.

Low level of aspiration was found in 91% of the subjects. Rajeshwari (1967) and Shanmugam (1967) also found similar results.

Cattell's Culture Fair Intelligence Test revealed the following results :

Table-1 : Intelligence of the subjects

Intelligence level	Percentage of subjects
Above Average	8·33
Average	33·33
Below Average	41·67
Dull	16·66

It is evident from the above table that 51.33% of the cases were below average or dull in intelligence. This aspect has been observed by many others (Shanker, 1955 Rajangum, 1957; Bosk, 1960; Mandal, 1961; Gopal Krishan, 1966).

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The TAT data were analysed under the heads : Identification with hero, needs, press, outcome of the stories, thema, interest-sentiments-attitudes, and sources of the stories. Findings revealed that most of the subjects had more identification with male heroes in the stories. It indicates that subjects had almost no or less feminine aspect or tendency in their personality.

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Table-2 : Needs of the subjects

Dominant needs felt by the subjects.	Percentage of the subjects
n Dejection	100·00
n Aggression	75·00
n Nurturance	66·66
n Succorance	66·66
n Sex	50·00
n Dominance	41·67
n Affiliation	41·67
n Abasement	25·00
n Achievement	16·66

The result shows that n dejection was the most dominant need felt by almost all the subjects.

The second dominant need felt by 75% of the subjects was aggression which includes emotional and verbal, physical social and physical asocial aggression. 66·66% of the subjects expressed n Nurturance and n Succorance. 50% of the subjects felt the need for sex. Need for dominance and affiliation were the other dominant needs felt by 41.67% of the subjects.

Taple-3 Press (Environmental Forces)

Dominant Press	Percent age of the subjects
p Lack & Loss	100·00
p Affiliation	100·00
p Dominance	91·00
p Nurturance	58 33
p Aggression	41·67
p Rejection	16·66

It is clear from the above table that Lack and Loss and Affiliation were the most dominant press (environmental forces), interacted by all the subjects. Next dominant press was p Dominance which was found operating in the case of 91·66% of the subjects.

58.33% of the subjects reported p Nurturance to be a dominant press. 41·67% of the subjects found p Aggression to be an important press including emotional and verbal, physical social and physical asocial aggression.

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Thus poverty, affiliation dominance and aggression have been found as the conducive environmental forces for delinquency.

Regarding attitudes it was found that 58·33% of the subjects had negative attitude towards police and 25% had a mixed attitude towards police. During the interviews also the subjects reported of illtreatment and harassment by the police. 66·66% of the subjects had positive attitude towards father and 75% of the subjects had positive attitude towards mother. Total sample had positive attitude towards teachers and sisters. Here it would be interesting to note that though 66·66% of the subjects had positive attitude towards opposite sex/wife, the woman in general was percieved as submissive, weak and helpless by most of the subjects.

Table 4 : Personality Characecteristics of the subjects as revealed by TAT analysis

Personality characteristics	Percentage of the subjects
Authoritarian	91·66
Optimistic	66·66
Passimistic	33·33
Defiant	58·33
Faith in God and Fate	50·00
Aggressive	41·67
Interest in opposite sex	41·67
Delinquent tendency	50·00
Helping	33·33
Repenting	25 00
Boasting	33·33

It is evident from the table that the main personality characteristics of the delinquents were authoritar anism, optimism, Defiancy, Faith in God and Fate, Aggreession Delinquent tendency, interest in opposite sex etc.

It would be interesting to note that aggressiveness, defiancy, boasting and delinquent tendency was mostly found in the case of the theft and rape offenders and not in the case of murderors. Hathaway (1962) also found delinquents to be defiant and distructive. Shanmugam (1967) found them agressive. So did Gopal Krishan (1956); Bosk (1960); Pati (1966); Mathur and Kumar (1967) and Das (1975).

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CONCLUSIONS AND SUGGESTIONS

From the discussion of the results the following findings of the study tend to emerge out :

(1) Majority of the subjects in the Udaipur Reformatory were Hindu.

(2) Most of the delinquents belonged to lower socio-economic-status.

(3) Most of the subjects were either illiterate or had very low education at the time of commission of crime.

(4) Majority of the subjects belonged to rural areas.

(5) Most of the subjects were unmarried.

(6) First and third (middle) birth order were found to be associated with delinquency.

(7) 58·33% of the subjects belonged to scheduled tribes and scheduled castes.

(8) Lack of proper discipline, indifference of father, poverty, large families, bad company, lack of recreational facilities, temptation to live a pompous easy going life, lack of education and impact of cinema were found to be the probable causes of delinquency.

(9) Most of the subjects were found to have low level of intelligence.

(10) Dominant personality characteristics found in the delinquents were authoritarianism, defiancy, aggressiveness, delinquent tendency, boasting and marked interest in opposite sex.

(11) Aggressiveness, defiancy, delinquent tendency and boasting were more dominantly found in the offenders of theft and rape than in the murderors.

(12) Offenders of theft and rape were found to have previous anti-social association or involvement, but offenders of murder were not found to have such association or involvement.

Since the size of the sample was small, generalization can not be made, it may, however, suggest certain line of thinking and direction of research which will prove useful. For the proper dealing and prevention of the delinquency more studies on larger samples are required.

However, it may be suggested that family welfare programme should be enhanced. Education should be made compulsary. General mass is also needed to be educated. Adequate recreational facilities should be there to keep these energetic adolescents busy. A strict censorship must be exercised on motion pictures. Police should be specially trained in handling delinquents, including training in criminology, correctional legislation and child Psychology.

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Reformatory should be equipped with trained staff including child guidance worker and counsellor, social worker, psychologist, psychiatrist, physician and properly trained teachers.

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The adolescents should never be allowed to stay with adult criminals. Reformation should include rehabilitation and reorientation of the delinquents. Moral education should be a part of education in the Reformatory.

Attitude of people towards delinquents is very much needed to be changed. Readjustment and employment after imprisonment is a drastic problem to be tackled properly. Government should have some provision of employment or some self-employment scheme for such people. A home like environment must be provided to the delinquents in the Reformatory and Reformatory must be separate from the jail premises.

Thus it can be said that since delinquents are the victims of circumstances the need is of a proper understanding, sympathetic treatment and rightful attitude towards them, for the cure and prevention of delinquency.

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Relationship of Reading Achievement to Metalinguistic Abilities

Minaketan Pani

The study was designed to examine the relationship between reading achievement and metalinguistic awareness among primary level school children. The subjects studied were 200 primary school children selected from one urban school of Bhubaneswar having Oriya as their medium of instruction. The age groups selected were from 5 to 9 (from grade I to V). After establishing rapport with children following tests were administered ond after another individually. Reading comprehension and metaling istic tests Phonological addity, strip-a-letter, rhyme recognition, symbol substitution, word creation and sentence synonymy judgement. The scores of the students in reading comprehension and total score in metalinguistic tests were then analyzed. Results indicated that there is a significant link between reading Comprehension and metalinguistic awareness across all grade levels. The correlation study reveal Positive one significant relation exist between two variables. The factor analytic study showed the there is a significant Age grade related change in reading comprehension and metalinguistic awareness among primary level readers Thus the finding of the present study agrees with the suggestion in the literature that poor comprehension may be due to lack of metalinguistic awareness.

Brown, Armbuster and Baker had opined metalinguistic awerenss has been referred to as reflective thinking, problem solving skill, consciousness raising and most recently metacognition which contributes substantially for rending achievement. Ryan and Ledger (1984) pointed out that certain level of metalinguistic ability is required to understand the meaning aspect of language and to acquare the concept of phonems. A link between wider range of metalinguistic ability and reading achievement was demonstra -ted in an investigation by Evans, Taylor and Blum (1979) They found that childrens performance on the featural concepts were predictive of reading achievement.

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Metacognition is what the learner knows about the task. It refers to thinking about thinking itself rather than about objects of thinking (Flavell, 1977). "Awareness" implies consciousness as suggested by Piaget (1970). He showed that children of typical school beginning age have relatively little awareness of communication functions of lang -uage. Reed (1966) found 5 years old showed a general lack of awareness of awareness of the purpose of written language Paris (1982). Cross (1982), Jacobs (1982), Lipson (1982) had suggested children's understaning of the nature of reading activities influence their actual reading behaviour. All these studies showed that children who displayed greater awareness of reading strategies are likely to score significantly better than low awareness children.

The present study was designed to show the relationship of metalinguistic awareness with reading comprehension. Further it tries to explore age/grade related change in metalinguistic awareness and reading comprehension among the primary level readers.

METHOD

Sample : The subjects studied were 200 primary school children selected from one urban school of Bhubaneswar-having oriya as their medium of instruction. For this study the age groups selected were 5+ for Grade I, 6+ for Grade II, 7+for GradeIII, 8+for Grade IV, and 9+ for Grade V, The subjects taken from each grade were 40 in number of whom 20 were boys and 20 were girls. All the subjects belong to lower middle class.

Procedure : The subjects were exposed to same tests: oriya graded reading comprehension and metalinguistic tests. Phonological oddity, strip-a-letter, rhyme recognition, symbol substitution, word creation and sentence synonymy judgement. The lower grade children were provided with more helps and detailed explanations. All these tests were administered one after the other in the same order to all the children. Care was taken to ensure that the subjects had understood the instructions thoroughly before the test was administered.

Tests : The reading comprehension test in Oriya was developed by Mohanty and Sahoo (1985). This test provides comprehension passages followed by comprehension questions. There are two passages for each grade level from 1 to 7. The first six passages contain 5 questions each while the rest eight passages contain seven questions each the test passages are given progressively from the lower to the higher grades. Each correct answer gets one. The maximum mark was 86.

Metalinguistic ability in the Present study was defined in terms of the following abilities, viz (a) Phonological oddity (b) strip-a- letter. (c) rhyme recognition (d) symbol substitution (e) word creation, (f) sentence synonymy Judgement. These six types of metalinguistic ability tests were taken from the study following Clark's (1978) model. Each

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test contains 10 iteme except word creation test all these tests are scored either correct or in correct response gets one and incorrect response gets zero. In word creation test the scoring is zero for "no response; 1 for "partially correct response; and 2 for correct respor se. So all total the score is 70.

Results : The means and standard deviation of scores for reading comprehension and metalinguistic awareness of different grades are presented in Table 1.

Table-1 : Mean and Standard Deviation of All Variables.

Grade	Variables			
	Reading Comprehension		Metalinguistic awareness	
	Mean	SD	Mean	SD
I	8·33	10·85	22·25	8·5
	11·67	10·35	29·10	8·10
III	17.85	9.85	24.32	7.60
IV	29.22	6.22	37.08	7.10
V	36.02	6.10	44.20	6.85

In Table-2, the correlation between tests- reading comprehension and metalinguistic awareness for each grade are presented. It reveals there is a positive and significant relation between the two variables of the study. Thus metalinguistic awareness appears to be closely related to performa ce on reading comprehension.

Table 2: Correlation between Reading Comprehension and Metalinguistic Awareness.

Grade	Correlation	dF	P
I	.63	38	<.05
II	.72	38	<.05
III	.76	38	<.05
IV	.80	38	<.05
V	.86	38	<.05

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The scores were then analysed in one way analysis of variance in order to compare the means of groups of children from the different grade leveles. A summary of the ANOVA for reading compenension is given in Table .. 3, where the F (df 4.195) = 103.60. p <.01. Thus this finding of the present study show that children belonging to higher Age/grade levels perfrom better comprehension task than those belonging to the lower Age/grade levels.

Table 3 : ANOVA Summary Table for Reading Comhrehension Scores to Children in differnt Grade Levels.

Sources	SS	df	MS	F	P
Grade/Age	22528.56	4	5632.14	103.60	<.01
Error	10601.00	195	54.36		

A Summary of ANOVA for metalinguistic awareness is given in Table 4 where F (df 4.195)=475.60, P> .01. Thus the present study shows that children belonglng to higher Age/grade levels have more metalinguistic awareness regarding the nature of reading activities.

Table 4 : ANOVA Snmmary Table for Metalinguistic Awareness scores of Children in Different Grade Levels.

Sources	SS	df	MS	F	P
Grade/age	50832.36	4	12708.08	475·60	<.01
Error	5212·23	195	26·72		

DISCUSSION

The result reveals significant relationship between metalinguistic awareness and reading comprehension across all greads. The present study supports the earlier investigation by kobasingawa. Ranson and Holland (1980) and pressley and Gillis (1983) who had demonstrated that mature readers are more flexible in their use of metalinguistic awareness and one able to monitor comprehension, moreover, the result also exhibits with incerease of age acpuisition of strategies for metalinguistic awareness proportiontely increases. Forrest and aller (1979) found that older better readers verbalize more about their strategic knowledge and were better able to utilize information while reading. Those have better metalinguistic ability detected errors more often while reading and had better recall of text information.

So from the present study it can be concluded that there is significant elatlonship between metalinguistic awareness and reading comprehension. There will be rsignificant age/grade related change in reading comprehension and metalinguistic awarenes The level of metalinguistic awareness will have significant on effect reading comprehension among primary level children.

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THE ASIAN JOURNAL OF PSYCHOLOGY AND EDUCATION

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Motivity of Students for Joining the B.Lib.Sc. Course

Gopendra Singh

The purpose of the investigation was to study the motivity i.e. factors motivating students for joining the B.Lib.Sc. Course. Incidental sampling method was used to select 146 students of the B.Lib.Sc. Course. A Questionnaire containing 15 items was used to collect data. The results show that (i) students differ in their motivity to join the B.Lib Sc. Course. (ii) Economic factors are the most potent motiviting factors, and (iii) Social prestige-value of the profession of libration is not high.

INTRODUCTION

To fulfil the requirements of "information-rich" and "technology loaded" twenty first century an effective educational system has become a need of day. Library occupies a key position in a effective educational programme. Infact, library is the hub of all the academic and researeh programmes of educational institutions. Therefore, efficient librains should be prepared for them. Now-a-days, institutions receive a large number of applications for admission to the B.Lib.Sc. course. What motivates the applicants to seek admission to this course? This question is crucial because motivation is the most important factor which makes a person successful in his profession. Hence, it seems quite meaningful to understand the forces motivating students for joining this course. But none has ascertained them. The present study is an attempt in this area.

Purpose:—The purpose of this investigation was to study the motivity i.e. factors motiviting students for joining the B.Lib.Sc. course.

METHOD

Sample:—Incidental sampling method was used to select 146 subjects who were studying in the B.Lib.Sc. course of the universities of Jaipur and Agra.

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Tool:—A questionnaire prepared by the investigator on the basis of experts opinion was used to collect data. This questionnaire contains 15 items in Hindi having two alternatives in the form of yes and no.

Table— Rank orders Motivating Factors

Rank No.	Item No.	Items	*Responses in p. C* Yes	No
1	3	To get job easily after doing the B.Lib.Sc. course.	94	6
2	8	To be self dependent after doing the B.Lib.Sc. course.	80	20
3	5	Sought admission because I was unemployed.	76	24
4	1	To become efficient librarian.	74	26
5	2	To do social service by helping poor students after becoming librarian.	70	30
6	9	Parents/guardians/relations wanted me to take admission to this course.	62	38
7	14	To do the M.Lib.Sc. course after passing the B.Lib.Sc. course.	50	50
8	4	To complete my education,	47	53
9	7	To earn social prestige because librarians have high social prestige.	42	58
10	10	To get better proposals for marriage.	40	60
11	11	To have professional qualification.	37	63
12	13	To train offsprings in keeping their books properly.	35	65
13	15	Some friends took admission. Hence, I also took admission to this course.	8	92
14	6	To pass time.	6	94
15	13	Do not know the exact reason of taking admission to this course.	5	95

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RESULT AND DISCUSSION

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It is clear from the appended table that "to get job after doing the B.Lib.Sc. course" is the most potent factor that motivates 94 p.c. students to take admission to the B Lib.Sc. course. This result indicates that to get employment is their most pressing need. "To be self-dependent after doing this course" has received the second rank. Feeling of self-dependence is directly related to getting job which enables a person to earn his dread and butter. Unemployment has motivated 76 p.c. students to take admission to the course. These results suggest that economic factors motivate a very large number of students to join this course.

There are 74 p.c. subjects who have joined this course to become efficient librarians. It implies that they have faith in this course. 70 p. c. students have shown their interest in social service. They believe that they will be able to help poor and needy students after becoming librarians. Only 62 p.c. subjects have joined this course to fulfil the wish of their parents/guardians/relations. This result provides a proof of the role of other persons in their decisions. It is evident that half of the students are eager to continue their study in the same discipline and intend to join the M.Lib.Sc. course. It is an indicator of their interest in the discipline of library science. But 47 p.c. wish to terminate their study after passing this course as they think that it will be completion of their educational career.

It is interesting to note that 42 p.c. students have joined the course to earn social prestige on the basis of their assumption that librarians have high degree of social prestige. But 58 p.c. students do not think so. Hence, it may be inferred that the social prestige value of the profession of librarians is not high. The responses to get better proposals for marriage corroborate the above fact as 60 p.c. students do not think that they will have better marriage prospects after doing the course. There are 37 p.c. students who have joined this course to have some professional qualification. To train the offsprings in keeping their books property" is the factor that has not motivated 65 p.c. studenes to join the course. Friends do not motivate their counterparts much. Only 8 p.c. students have joined this course because their friends have also joined the same course. There are 6 p.c. students who have joined the course to pass their time. It seems that 94 p.c. students are serious about the course. It is strange to note that 5 p.c. subjects are not aware about the motivating factor. These results point out that some students have joined this course in a casual way.

CONCLUSION

On the basis of above results the following conclusions are drawn:—

1. Students differ in their motivity to join the B.Lib.Sc. course. All the factors do not effect all the students in the same degree.

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2. Economic factors are the most potent factors as they motivate a very large number of students to join the B.Lib.Sc. course.
3. Social prestige-value of the profession of librarian is not high.

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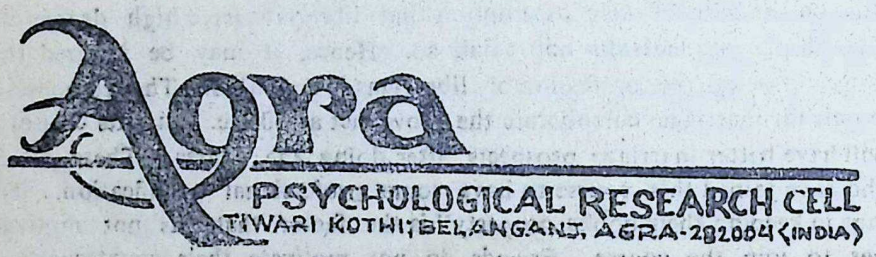

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Analysis of Developmenta Trands in Attribution of Cognitive Differences of Self and Parents in Delinquent & Non-Delinquent

Dr. Thakorlal C. Mistry*

Theoretically, it is held that delinquents (as compared to the non-delinquent boys) tend to experience inadequate love from one or both parents, inadequate sense of security especially from father, inadequate home environment, inadequate opportunity for self-expression. The whole burden of modern psychological investigation points to the fact that a child needs love, security and opportunity for self-expression. Deprivation of these factors, it is believed, tends to contribute to the formation of aggressive personalities. Such behaviours mainfest earlier on a more wide-spread scale than in non-delinquents. The study of delinquent's behaviour has attracted the attention of scholars in a variety of disciplines. Among others, psychologists, sociologists, psychiatrists and social workers have sought to explain the etiology of delinquency and to propose strategies for preventing and treating it Several studies have sought to clarify the relationship between family conditions and the behaviour of the juvenile delinquent. Bandura and Walters (1959)[1], for example, found that the inter-personal relations between aggressive boy delinquents and their parents were, on a behavioural level, characterized by a lack of dependency on the part of the son. Lower degrees of identification with fathers have been found to be more charecteristics of delinquents than non-delinquents.

In spite of conceptual and analytic differences, both between and within disciplines, almost everyone agrees about the importance of inter-personal relationships within the family in shaping the inter-personal behaviour and cognition of the delinquent child. (Desai,[2] 1973; Nye,[3] 1958 . According to these investigators the development of Hostile and rebellious behaviour towards parental figures appears to be related to scarce and inconsistent parental display of affection and recognition towards the child. The present study is reported here to highlight the differences in the cognitive rather than behavioural effects of parental behaviour and focuses on the development of self-concept in the delinquent boy. The fact that the general notion of inter-personal concepts, like the self are built up through repetitive and consistent experiences in the family has often been advanced (Frued, 1933;[4] Rogers 1951[5]) and analysed in detail by persons, 1955[6]. Developmental theorists have proposed that a consistent relationship between stimuli, reinforcement and response is necessary for conceptual learning. Critical studies of

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concept formation (Harlow 1959) have indeed shown that only the stimulus properties which exhibit a consistent relationship to reinforcement are conceptually learned, while aspects varying randomly from one trail to another are not.

If juvenile delinquents come from homes where parental reinforcement of the child depends on the mood of the parent rather than on the child's behaviour, then the reinforcement-relevant one will be the parental mood and not the child's own behaviour; under these conditions it seems likely that the child will experience difficulties in forming a self-concept relatively independent of the image of the parent. Furthermore, when the reaction of the parent depends on his mood and not on the child's behaviour, then the two parents may tend to react differently to the same behaviour, each one according to his own mood. In these conditions the child will be more likely to conceptualize the two parental figures as different. By contrast the two parents will be seen as more similar when their reactions are determined by the response of the child, a situation presumed to exist in normal families. These considerations lead to the following two hypotheses, which were tested in this study : (1) Differentiation between perceived behaviours of self and parents will be weaker in delinquent than in normal subjects. (2) Differentiation between perceived behaviours of father and of mother will be stronger in delinqnent than in normal subjects.

Subjects : The subjects were juvenile delinquents (aged 12-16) and consisted of two different groups : delinquent and non-delinquent. The delinquent subjects were inmates at correctional institutions in Gujarat (India); the non-delinqnents were students from secondary schools. A random sample was obtained at each institution. Then for each group was non-delinquent-son-father role, 47; son-mother role, 51; delinquent-son-father role, 17; son-mother role, 34.

Instrument : The Role Behaviour Test, a modified version of Bales Categories for interaction process analysis was used. Words interaction and interpersonal more or less are used synonymously in literature. This study is not an exception to this. The Role Behaviour Test is an instrument for recording inter-personal interation behaviour in a given role pair (such as husband-wife, son-father, pupil-teacher relationship) as perceived by a person occupying one of the two roles. The recording used here is very simple and based on the continuous method used by Bales, (1951[4]) with the behaviour categories developed by Merrill, (1946[9]). The criteria for the selection of categories were that they tend themselves to clear definition. In the present study only the parent-son roles were used and the observer is always the boy. The test provides scores indicating the perceived frequency of occurrence and strength of eight types of inter-personal interaction behaviour, generated by combining elements of three underlying dichotomous facets or conceptual dimensions. The first dimension is the mode of behaviour "shows four categories of agreement" or giving, positive reactions which, coupled with four "categories of disa-

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greement"; "shows tension" and "shows antagonism", rejecting or taking away constitute social emotional behaviour; self or other, one may hate or like both himself and others. The third dimension is the resource : the test covers interpersonal interaction resource frequently used in primary relationship : love (affect, warmth) and status (esteem, recognition, prestige). The eight types of interpersonal interaction behaviour resulting from all the possible combinations of the facet elements, taking one element from each facet, are listed below:

Table-1 : Facet Design of the Interpersonal-Interaction Variables and Examples of their Items.

Variable	Mode	Object	Resource	Shortened example of item
RSO	Respecting	Other	Status	Respect and esteem for parent (shows solidarity)
RLO	Respecting	Other	Love	Loves parent very much (shows tension release)
RLS	Respecting	Self	Love	Feels happy with herself (shows normality)
RSS	Respecting	Self	Status	Esteem and relies on herself (shows esteem and reliability)
TSS	Taking	Self	Status	Fails to show respect for himself (shows disagreement)
TLTS	Taking	Self	Love	Rejects and blames herself (finding fault)
TLO	Taking	Other	Love	Dislike and hostility towards parent (shows hostility)
TSO	Taking	Other	Status	Disrespect towards parent (shows antagonism)

Each variable is represented in the test by three items, having a similar meaning, but expressed in different terms and with a different degree of strength. The test item is semi-projective, i.e., the subject is not asked whether he or his parent behaves in a given manner, but how often his or his parents' behaviour is similar to that described in the item. Examples of items are respecting or giving status to self (e.g., feeling competent,

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adequate); respecting love or giving love to self, (i.e., accepting yourself) ; taking status from father, he treats his father with disrespect. Taking love from self, e g., when he is with his father, he is a gloomy son who acts unhappy with himself. Each item was followed by the question : "Do you act this way when you are with your father (or mother ? ; or, when the actor changes, "Does your father (or mother) act this way when he (or she) is with you ?".

Scoring and Analysis : For each item five alternative ranked answers were provided and the given weights are attached to each alternative almost always (4), often (3), sometimes (2), seldom (1), almost never (0). The score on each variable is simply the sum of the weights of the answers chosen by the subjects on the three items, of the variable. Productmoment correlation coefficients between variables were compared (delinquent vs. non-delinquent), These correlations are used as a measure indicating the degree of differentiation between two perceptions of behaviour'

RESULTS AND DISCUSSION

The increase in positive and negative reactions may be connected mainly with the social-emotional problems of the group process. Since the ratio of the negative to positive reactions tends to be higher in response to suggestions than to factual statements, the decision point is the critical bottleneck in the process. Once the decision point has been passed, the ratio of negative reaction usually falls off and the ratio of positive reaction rises sharply. Free talking, laughing and joking, increasing solidarity and tensions release. When analysing the findings based upon subject self-report one must consider factors such as social emotional desirability and its possible differential effects on the group compared. An institutionalized delinquent child may seek to present a more favourable image of himself and his relationship with his parents, and consistent in his responses. To assess possible differential effects of social-emotional desirability we compared the means of the variables in the two-groups of subjects. The study presents the means of the delinquent and non-delinquent boys perceived behaviours towards self. A higher mean indicates that the given behaviour is perceived as more frequent. In the role with father, delinquent, compared to non-delinquent, boys had a higher mean score for the positive behaviours and a lower mean score for negative behaviours.

In two cases the difference was statistically significant at the 0·01 and 0.05 levels, respectively, by one-tailor test. Thus, in this role, delinquent boys presented a more positive picture of themselves. This trend was attenuated in the role with mother : differences between means were smaller and in both directions. Once again, however, delinquent boys were significantly less likely than non-delinquents to take away status from themselves. These results suggest that delinquent subjects were, some-what more than control subjects, influenced by social-emotional desirability in the presentation of a self-image, particularly in their role with father.

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The first hypothesis stated that the delinquent boy's perceived behaviour towards his parents aud towards himself will be less differentiated from his perception of his parent's behaviour towards him than the non-delinquent boys. Lower differentiation is reflected in a stronger relationship, so that the correlations between perception of self and parents' behaviour were expected to be higher for the delinquent subjects.

The second hypothesis stated that the delinquent boy will perceive more differentiation between the behaviours of father and of mother. Hence it was expected that the correlation between the perceived behaviours of the two parents will be lower in delinquent than in non-delinquent boys.

The findings presented here suggest that the images of father and mother are somewhat more discriminated in delinquent than in non-delinquent boys. On the other hand, the delinquent boys' self-image appears closer to the parental image, particularly to the father's image. These findings suggest that inconsistent parental behaviour leads to less dependence at the behavioural level; our data, on the other hand, indicate more dependence at the cognitive level. This apparent contradiction stems from the assumption that cognition and behaviour should point in the same direction. Piaget (1954)[9] has however, suggested that a differentiation begins at the behavioural level before becoming cognitively established, so that at such a developmental stage behaviour and cognition are unlikely to be congruent. Hence, the extremely independent and rebellious overt behaviour of the delinquent youth may be interpreted as an attempt to achieve the appropriate level of perceived role differentiation between self and other, which was not attained in the past because of inconsistencies in parental reinforcement. Youth 'rebellion' in general may indeed be seen as a means to achieve a more independent self-image. Primary of overt behaviour over cognition appears to characterize a developmental or adjustive stage: once this stage is over the relationship appears likely to be reversed; overt behaviour will then be guided by the cognitive structure, so that they both will point in the same direction. Thus, disagreement between the two levels may be predictive of forthcoming changes in the cognitive role structure, or, at least, indicative of developmental difficulties.

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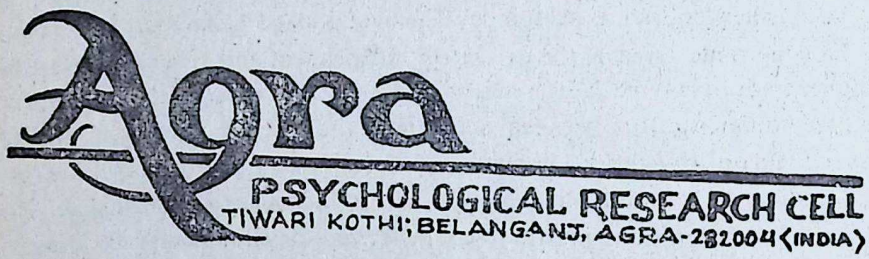

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Development and Standardization of Attitude Scale Towards Yoga

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Importance of Yoga In Modern Age : Modern man finds himself more and more isolated from the real joy and bliss. Moreover, he is suffering from split-personality and consequent mental and emotional stresses inner and outer conflicts. In this context a question has been raised whether a psychophysiological system of training like Yoga offers to reduce or eliminate human misery. Answer to this question has been given by S. K. Mitra that Yoga is receiving attention all the world over for its potential in promoting physical, mental and moral well-being.

Research In Yoga and Need of Research Tools : A great number of investigations conclude the anxiety reducing effects of meditation training. Effectiveness of meditation or relaxation against the problem of insomnia blood-pressure and even the cancer disease has been confirmed. Research in Yoga education is in the infancy and few tools are available for researeh in this area. Hence the need was felt to construct a research tool.

Statement of the Problem : Development and standardization of an attitude scale tawards Yoga and a study of the attitude measures in relation to sex, marital status and neuroticism.

DEFINITIONS

Yoga : Yoga literally means a contact, a union and identification with the Supreme in existance. It consists in perfection and as a process leads man from the ignoble to the noble, finally cuminated in the realisation of the self as the absolute, after freeing deconditioning the personality complex of inapt identification of the self from the Not-self.

Attitude : An attitude is a mental or neural state of readiness for response.

Research in Yoga Education : First and Second Survey of Research in Education do not list even a single research in the field of yoga education. The investigator has come across only two research studies at the M-Ed. level conducted by the students of Panjab University. No research investigation has been reported regarding attitude towards Yoga.

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Development of the Attitude Scale Likert's method of summated ratings with 5 options has been used. Sixty-items were developed, out of which 30 were positive and 30 negative. These were classified into ten sub-catagories : Physical (positive and negative), mental (positive and negative), remedial (positive and negative), spiritual (positive and negative), life-style (positive and negative).

Try out : At the preliminary stage data of 60 subjects were obtained by using snow ball sampling techniques Likert format with five option-strongly disagree, slightly disagree, no opinion, slightly agree and strongly agree. The scoring for positive items was done from 1 to 5 and it was reversed for negative items (from 5 to 1),

Part.whole-correlation for all the 60 items were found out. The score on each item was correlated with the total score on 60 items. The items were then arranged according to the descending order of the correlation.

Final Scales : Thirty two items with part-whole-correlations greater than 0.29 were selected for the final scale.

Sample : A sample of 155 subjects was derived to administer the final draft of attitude scale.

Reliability : Split-half method of finding reliability was used. The reliability was found to be 0.77. The full length reliability of 32-item attitude scale, was found to be 0·87 by Spearman-Brown formula.

Validity : Two groups with favourable and unfavourable attitudes towards Yoga were selected. Means of the scores of these two groups were compared. '*t*'-value of these two groups was found to be significant at .01 level. It shows that scale is valid.

Testing of Hypotheses : (1) Hypothesis of no difference between male and female subjects on the attitude towards yoga cannot be rejected. (2) There is no significant difference between married and unmarried subjects on the attitude scale. The null hypothesis is therefore rejected. (3) The interaction Sex X Marital status does not show any difference to be significant. Thus the null hypothesis is rejected on this interaction.

Neuroticism : Neuroticism was measured by Eysenk's Maudsley Personality Inventory. The response of highly neurotics is less favourable towards yoga as compared to those with low neuroticism.

Educational Implications : (1 While organising the class of yoga, it is desirable to assess the attitude of the participants. (2) Those students should be paid special attention, who have negative attitude towards yoga. (3) Achievement motivation may be helpful in modifying the attitudes of those, who have a low attitudinal score. (4) Attitudinal scale may be helpful in equalising experimental and control groups for any research study in yoga education.

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APPENDIX

Attitude Scale Towards Yoga

Instructions : Read the following items carefully. After reading a statement decide as rapidly as you can to what extent you agree or disagree with it. There are five alternatives for each item represented by the numbers 1, 2, 3, 4 and 5.

Extent of Opinion	*Number*
If you disagree strongly	1
If you disagree slightly	2
If you have no opinion	3
If you agree slightly	4
If you agree strongly	5

When you have decided the extent of your opinion about an item write the corresponding number against the item ( )

Give appropriate number to every statement. Please start :

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1.	Yoga Practice is nothing but torture of the body.	( )
* 2.	Yoga education has proved to be a failure in removing deficiencies in life.	( )
* 3.	Yoga makes a man dogmatic.	( )
* 4.	(+) Yoga prepares one to remain indifferent to pain and pleasure.	( )
* 5.	(+) Yoga develops a sense of self discipline.	( )
6.	Yoga makes one shirker.	( )
* 7.	Yoga makes one deprived of all the worldly enjoyments.	( )
8.	(+) Yoga liberates one from the worldly sorrows.	( )
9.	(+) Yoga infuses the feeling of co-operation with othrrs.	( )
10.	Practice of yoga is just a waste of time.	( )
* 11.	(+) Yoga improves efficiency in work.	( )
12.	Yoga leads to miserable life.	( )
13.	(+) Yoga is helpful in physical development.	( )
* 14.	Autocratic tendencies are the outcome of yoga.	( )
* 15.	(+) Yoga prepares one to lead a contented life.	( )
* 16.	(+) Yoga is efficacious in bringing about emotional stability.	( )
17.	Yoga breeds mental conflicts.	( )
* 18.	Yoga creates confusion in the mind.	( )
19.	(+) Yoga is a great science.	( )
20.	Yoga is helpless in removing the evils of society.	( )
* 21.	Yoga makes a man fatalist.	( )
22.	(+) Yoga has no concern with emerging complexities of life.	( )
* 23.	Yoga makes a man fatalist.	( )
24.	Yoga makes a man escapist.	( )
25.	(+) Yoga inspires one to have a great reverence for elders.	( )
26.	Yoga isolates man from the society.	( )
27.	(+) Yoga purifies mind.	( )
28.	(+) Yoga eradicates one's aesthetic sense.	( )
* 29.	(+) Yoga brings about a complete harmony within the individual.	( )
30.	(+) Yoga generates will power.	( )
31.	Hypocrisy consists in yoga.	( )
32.	(+) Yoga helps to conserve energy.	( )

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* 33. (+) Yoga cures chronic diseases. ( )

34. Yoga destroys one's power of logical thinking. ( )

* 35. (+) Yoga prolongs life. ( )

36. (+) Yoga develops positive thinking. ( )

* 37. (+) Yoga strengthens moral character, ( )

* 38. Yoga makes a man rigid. ( )

* 39. Yoga takes one away from the realities of life. ( )

* 40. Yoga has very little utility. ( )

* 41. Yoga makes one prejudicial. ( )

42. (+) Yoga elevates man towards spiritualism. ( )

* 43. Yoga ignores social values. ( )

44. Yoga is helpful in overcoming the feeling of insecurity. ( )

* 45. (+) Yoga enables one to render selfless service to others. ( )

* 46. (+) Yoga enables one to bear extreme hot and cold weather. ( )

* 47. (+) Yoga helps in self-control. ( )

* 48. (+) Yoga develops serenity of mind. ( )

49. (+) Yoga inculcates the habit of truthfulness. ( )

* 50. (+) Yoga cultivates clarity of thought. ( )

* 51. Yoga makes one unamicable. ( )

* 52. Yoga keeps one away from the modern scientific research. ( )

53. (+) Yoga increases manual dexterity. ( )

* 54. (+) Yoga reduces tension. ( )

55, (+) Yoga keeps the mind free from sensuous temptations. ( )

56. Selfishness is rooted in Yoga. ( )

* 57. Yoga develops narrowmindeness. ( )

* 58. (+) Yoga develops intellectual faculties. ( )

* 59. Yoga creates boredom. ( )

60. Yoga generates ill-adjusted personalities. ( )

The items having stars were selected for final stage and the items having sign of (+) are direct and others a reverse. The direct items are scored from 5 to 1 from strongly agree to strongly disagree response and the reverse items in reverse direction.

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A Study on the Adoption Level of Trained Farmers in Ghataprabha Command Area, Karnataka State

Nidag ndi, F.R., Seth u Rao, M.K., Manjunath, L, and Budihal, R.A.

INTRODUCTION

Agricultural development is an urgent necessary for national progress. Only this can encourage an abequate means of livelihood to the large population of people who live in rural areas and provide steady supply of food, fibre and industrial raw materials to urban and commercial centres. Since 1973, Ghataprabha command Area Development authority started organising periodical training programmes on improved technologies for the benefit of farmers in Farmers Training and Education Centres, so that quicker and accelerated adop tion of the needed technologies be manifested in the area

Hence, it is very much necessary to knew the extent of adoption of improved technologies by these farmers which form the base to assess the utility of expenditure incurred towards such programmes and also helps in eliminating deficiencies and modifying training content etc. Keeping these thing in view this study was designed to understand the impact of training on the participant Farmers of the command area with the objective. : To findout the overall adoption level of the trained farmers about irrigated wheat cultivation practices.

Review of Literature : G inesh (1975) reveales that impact of training on adoptoin was highly significant in both the technolagies of soil and water management and hybrid jowar cultivation.

Bhat (1980) reported that training was positively associated with the overall adoption of recomended cultivation of practices of irrigated wheat and soil and water management practices.

METHODOLOGY

The study was conducted in 23 viliages of Ghataprabha Comm. and Area

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with a simple of 110 farmers trained in Farmers Training and Education Centre, Arabhavi and Jamakhandi, talukas having more than 20 trained farmers were selected. Villages having more than three trained farmers were selected. Farmers who had grown atleast one crop of irrigated wheat a year prior to the conduct of the study were selected. Adoption level of respondents was measured with reference to irrigated wheat cultivation. Adoption quotent developped by Sengupta (1967) was made use of to measure adoption level. The scores for the adaption of individual practices were arrived out keeping inview the relative importance of the stems in consultation with the specialists of the University of Agricultural Sciences, Bangalore.

The data were collected with the help of a pretested structured schedule by personal interview method. The data were subjected to percentage 'F' test and normal test of significance for analysis and interprelation.

RESULTS

Table-1 : Overall Adoption level of trained farmers with respect to recornded cultivation practices of irrigated wheat.

N=110

Sl. No.	Adoption level category	Frequency	Mean adoption score	Variance	Remarks
1.	Low	52	61·94	17·34	F=1·09 NS
2.	High	58	74·13	15·92	U=15·68**
3.	Over all	110	68·34		

**=Significant at 1 percent level.
NS=Not significant

Table-2 Adoption pattern of irrigated wheat cultivation practices among trained farmers.

N=10.

Sl. No.	Practices	Adoption level Trained farmers
1.	Use of certified sheeds	98%
2.	Spacing	97%
3.	Use of chemical fertilizers	68%
4.	Intercultivation and weed control	99%
5.	Pest control	58%
6.	Desease control	56%

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It could be seen from the tables that the majority of the farmers fall under high adoption categories. The mean adoption score obtained by high categories of farmers was much higher than the mean adoption score obtained by low adoption category of farmers. There was a significant relationship between the training and adoption level of the farmers. It is also noticed that extent of adoption of various cultivation practices is more by trained farmers. The reason for this could be that whatever the farmers had learnt under the trainnig situation, they might have found it difficult to practice under the actual field conditions, due to several practical problems. Hence even among the trained farmers some of them have fallen under low category. This could be explained by the fact that while axceptance might be there for the new technology in a training situation, behavioural adoption would not have taken to the desired extent due to several situational constraints.

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It could be inferred from the findings that there was significant increase in the adoption level of farmers as a result of training. There is need for training in the ever charging modern agricultural technology for larger portion of the farming community to face the complex situations regarding cultivation and management of the farm. All the concerned agencies in organising training programmes should take note of this point.

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The Patterns of Behavioral Problems of the Children and the Socio-Economic Status of the Family

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INTRODUCTION

The problems of behaviour disorders in children is one of the burning topics of the day. It has now received world-wide attention & quite valuable work has been done in the rapidly expanding field. What is a 'problem behaviour'? Any behaviour constitutes a problem when it deviates from the desired social and cultural norms. Behaviour of an individual may be defined as "those activities of organism that can be observed by another organism by an experimental instrument." All the children at some time or the other present some behaviour difficulties for their parents as part of their normal development. As children grow up awareness and perception increase, and they learn to cope with the environment that seems to change and expand, and those who can not do so present some behaviour disorders. These disorders are the behaviour that makes life difficult and unsatisfactory for the child, Behaviour problems in children can not be termed as disease but these are the symptoms or the reactions which are caused by emotional disturbance or environmental maladjustment. Such children mostly come from homes where there is no ove and affection or where they are not wanted and cared for.

Adler (1945) in the study concluded very slight difference in the emotional difficulties of upper and lower income group. Eisenberg (1961) stated that incidence of delinquency was higher in low-socio economic classes. Passamanick (1961) hypothesized that children's emotional trauma and social depression play a significant role in causation of behaviour problems. The present study intends to make a psychological study of behaviour problems of children. It seeks to investigate the role of socio-economic status in childrens.

Hypothesis : "There is no significant difference in the pattern of behavioural problems of children on the basis of their S.E.S".

Sample : Sample of the study consisted of 180 cases from different S.E.S. The socio-economic classes considered in the present study are: Higher (above 1500 per month), Middle (500-1500), Low (500 per month). Distribution of these cases in given table 1.

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Distribution of cases on the basis of S.E.S.

S.E.S.	No of cases	Percentage
Higher	41	22·8
Middle	78	43·3
Low	61	33·9
Total	180	100·0

Material and Methods : The parents, teachers and children were approached individually for collecting the right information through questioniar method. The eight behaviour problems were considered in the study.

Scholastic Problems : (Sch. P.) : Under achievement and reading disability. The complete behaviour of the child was recorded. Low understanding, interest for study/ work, play, cleanliness, punishment, interest for school were main areas covered under this.

Family environment : (F.E.) : Parental attitude, attitude towards parents.

Habit disorders : (H.D) : Included thumb sucking, nail biting, temper tantrum, bed wetting, bearing the cloth.

Speech problems : (Sp.P.) : Delayed speech, slow speech, clear speech, stammering, stertling.

Personality prolems : (p.p.) : Timidity, Irritability, Shyness, Lack of sociability, possesive friendly nature.

Feeding problems (F.P.) : Refusal of food, forceful eating, less and selective eating.

Sleep problems : (Sl. p) : Sleep talking, grinding of teeth, night terror, crying before sleep.

Anti-social behaviour (A.S.B.) : Lying, disobeying, mischevious behaviour, running away from school and home.

RESULTS AND DISCUSSION

The detailed observation of all the eight problems showed that scholestic problems were most common in the lower class of children and were least common in the upper class. The children with L.S.E. background had maximum cases of A.S.B. The H.D.

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on the other hand were found maximum in middle class children. Problems related to feeding, family environment were maximum among upper class children. The personality problems increased with the decreasing S.E.S. The maximum number of cases having speech problems were from S.E.S. and maximum from upper S.E.S. class.

Table-2 First survey showing B.P. as a function of S.E.S.

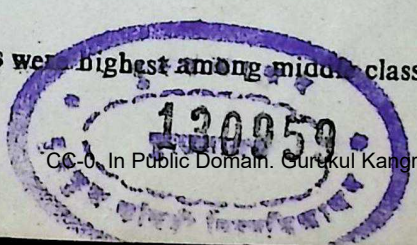
S.E.S.	H.D.	F.P.	SL.P.	Sch.P.	A.S.B.	F.E.	P.P.	S.P.P.	Total
Upper	18	4	1	9	4	7	7	1	41
Middle	21	10	5	19	8	3	10	2	78
Low	8	1	3	23	13	2	7	4	61
Total	47	15	9	51	25	12	24	7	180

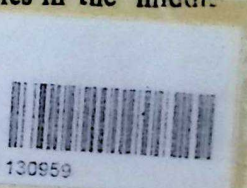
Chi-Square =26.7, df= 14, Significant at .02 level

FINDINGS

There are several findings made on the basis of his investigations of the hypothesis :-

1. H.D. such as bed wetting, thumb sucking were most common among the middle class children.
2. Feeding problems like rejection of food and selective attitude were highest among the high income groups.
3. The speech problems were highest among lower class children.
4. Anti-social behaviour like stealing, running away from school and home etc. were most common among low class.
5. The scholestic problems were maximum among the low class children.
6. Personality problems were observed having maximum frequencies in the middle class children.
7. Sleep problems were highest among middle class children.





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DISCUSSION

The chi-square values in the present hypothesis were obtained significant which revealed that the socio-economic status has considerable effect on the behavioural problems of children. The high income group children were found suffering less with the problems like A.S.B. and sp. p. as compared to other two groups. The shcolestic problems were found highest among low S.E.S. The obvious reason for this is that here parents are very busy making both ends meet and have no time for their children. These children become very independent at a very tender age. No one is there to teach them the higher values of life and so they easily fall prey to anti-social behaviours like stealing, begging, running away from school and home. at one end there is poverty and at another there is lack of development of higher values, for such children. Economic stringency also gives their inferiority complex and places then at disadvantage. This is strongly in favour with the findings of Adler (1945) and Eisenberg (1961) they also concluded that role of delinquency was higher among low S.E. classes. The problems of habit were maximum among middle class children. It's because parents here emphasise indepence in early childhood, expect good school performance. The scholestic problems too were quite high in this group. These parents have greater belief in the possibility of success. The strict decipline of these parents lead to these problems. The studies made by Swan and Starros (1973) are different from the present findings. According to him in middle class families a helpful and encouraging attitude was maintained by parents.

The present study needs further investigations. A very detailed study of a larger group will help in throwing more light in the sphere of children's behavioural problems. The present study is helpful to give an idea of the behaviour problems of one area. The area of the study can be extended to compare the problems of different areas.

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A study on the pattern of knowledge level of trained and untrained farmers.

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INTRODUCTION

Efficient utilisation of irrigation water is a complex phenomenon. The pre-requisities for the efficient use of irrigation water is understanding the "Know How" available. Series of training programmed are being conducted to educate farmers about various crop production technologies and soil and water management practices. Hence, it is desirable to know the extent of knowledge gained by farmers through training programmes, in order to redress the syllabus for more effective results. Keeping this in view, study was conducted to find out the differential pattern of knowledge level of trained and untrained farmers with respect to recommended practices of soil and w ter management and hybrid maize cultivation.

Review of Literature : Ganesh (1975) found that there was a significant gain in knowledge by the participants attended the training on recommended practices of soil and water management and hybrid jowar cultivation.

Gangadharappa (1979) in his study on farmers training reported that trained farmers had higher knowledge score in contrast to untrained farmers with regard to cultivation practices.

Methodology : The study was conducted in 8 villages spread over 4 taluks of Bijapur, Belgaum district of Ghatapradha command area of Karnataka State. The sample consisted of 88 trained farmers who had grown hybrid maize and another 88 matched farmers who were not trained at the farmers training centre. The data was collected with the help of a schedule by personal interview method. The knowledge level of the respondents was measured with reference to recommended cultivation practices of maize under irrigation as well soil and water management technology. Knowledge index was developed as suggested by Anastasi (1961) knowledge scores were computed and farmers were grouped into two categories by taking mean knowledge score as measure of check. Percentage, 'F' test and 'U, test were used for further analysis.

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Results and Discussion

Table-1 : Overall knowledge level of trained and untrained farmers with reference to recommended practices of hybrid maize cultivation and soil and water management practices.

Sl. No.	*Farmers categories*	*Frequency*	*Mean knowledge Score*	*Remarks*
1.	Trained farmers	88	97.60	F=2.5.**
2.	Un-trained farmers	88	56.65	U=6.24**

** Significant at 1% level.

Table-2 : Knowledge of trained and untrained farmers about cultivation practices of hybrid Maize.

N=88

Sl. No.	*Cultivation practices*	*Knowledge level of Trained farmers.*	*Untrained farmers*
1.	Certified seeds	1 0%	8.%
2.	Spacing	100%	69%
3.	Use of chemical and fertilizers	97%	68%
4.	Intercultivation and weed control	100%	98%
5.	Pest control	79%	41%
6.	Disease control	73%	34%

The inference that could be derived from Tables is that trained farmers have superceded untrained farmers in their knowledge level. The findings of this study have indicated that training had a significant effect on the knowledge level of respondents with respect to the recommended practices of hybrid maize cultivation and soil and water management.

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The fact that the trained farmers had a higher knowledge score than untrained farmers suggests that when special educational efferets by way of training are made, it might be possible to increase the knowledge of farmers on improved agricultural practices. The main reason might be that the appropriateness of the subject matter and topicality of training situation might have acted to an appreciable extent in enhancing the knowledge level of trained farmers, and it implies need for organisation of effective training programme to promote diffusion of the technologies to the larger population within shortest period.

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Adopters and Non-Adopters of Soybean Cultivation and their Value Orientation

Dr. C. M. Dudhani * and S. N. Malagi **

Oilseed crops contribute significantly towards the agricultural production of the country. Unfortunately, the situation on oil front is not satisfactory. At present, oilseed production is 12.8 millian tons which is less than the oil requirement of the country. Soybean is one of the important oilseed crop which is rich both in protein and oil content. In India, soybean occupies an area of eight lakh hectares and the production is 5.8 lakh tons. In Karnatak, it occupies more than 30,000 hectares. Kalghatagi taluka of Dharwad district in Karnataka stand first with an area of 510 hectares under soybean. Cultivation of soybean should be encouraged to meet the food and seed requirements of the State. Therefore, empirical evidences are needed to know the extent to which the value orientation influences the entire mechanism of accepting the technical know-how of soybean crop. With this view, the present study was conducted to know the value orientation of adopters and non-adopters of soybean crop in Kalghatgi taluka of Dharwad district.

In this study, the values are defined as important ratings which people attach to things, conditions and circumstances. They may also be regarded as general objectives to which people orient their thinking, actions and feelings. As such, they become important organising thems in the behaviour of individuals (Lionberger, 1960). Economic motivation, scientific orientation, independence, mental activity and risk preference are the important dimensions of value.

Review of Literature : Ramsey, *et. al.* (1959) observed that values such as achievement, science and material comfort had positive relationship with adoption whereas security and traditionalism had negative relationship with adoption. Bose (1967) found out that farmers who were most scientific in outlook adopted a large number of recommended practices. Deb, *et. al.* (1968) reported a significant and positive correlation between scientific outlook and adoption. Moulik and Lokhande (1969) opened that scientific orientation is positively and significantly correlated with adoption.

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Materials and Methods : The study was conducted in Kalaghatagi taluka of Dharwad district of Karnataka State during the year 1983-84. This taluka was purposively selected since this taluka stands first in area (510 hectares) under soybean (a list of villages was prepared). Villages with more area under soybean were selected. These villages were classified into three groups, namely low, medium and high, based on the area. Five villages were selected from each groups. Thus, a total of 15 villages were selected for the study. All the farmers of Kalaghatagi taluka of Dharwad district who had cultivated soybean in two consecutive year prior to the data collection constituted the population for the study. A list of farmers growing soybean was prepared. From each selected village, five farmers were selected from the list by systematic random sampling method. These farmers were considered as adopters. An equal number of non-adopters were selected from the same selected villages considering the size of land holding as the matching factor. Thus, a total sample for the study was 150 respondents. The information was collected from the respondents with the help of pre-tested interview schedule prepared for the purpose. The data were collected by personal interview method.

Different values included in the present study were economic motivation, scientific orientation, independence, mental activity and risk preference. To quantify these variables, the procedure suggested by Supe and Singh (1973) was used. The scale was used with slight modification and was converted into three points scale namely, agree, undecided and disagree. The scoring was done as detailed below. For positive statements a score of 3, 2 and 1 were given for agree, undecided and disagree raspondents respectively and the reverse order of scoring was followed for negative statements.

Respondents were classified into three groups on each value component based on the score obtained by them, taking mean and standard deviation as measures of check. A null hypothesis was set-up and presumed that there would be no significant association between value orientation of adopters and non-adopters of soybean. So test the hypothesis, chi-square test was used to study the association between value orientation of the adopters and non-adopters of soybean.

RESULTS AND DISCUSSION

The data regarding value orientation of adopters and non-adopters of soybean are presented in Table-1, which reveals that there was significant association between the value orientation of adopters and non-adopters as evidenced by chi-square values.

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Table-1 : Value orientation of Adopters and Non-adopters of Soybean

Sl. No.	Categories of farmers based on various	Adopters (*N*=75)		Non-adopters (*N*=75)		Chi-Square Value
		No.	Percent	No.	Percent	
1.	Economic motivation					
	Low	18	24.0	38	50.7	
	Medium	17	22.7	28	37.3	29.44*
	High	40	53.3	9	12.0	
2.	Scientific Orientation					
	Low	16	21.3	37	49.3	
	Medium	17	22.7	34	45.3	45.38*
	High	42	56.0	4	5.4	
3.	Independence					
	Low	18	24.9	36	48.0	
	Medium	20	26.7	32	42.7	29.20*
	High	27	49.3	7	9 3	
4.	Mental activity					
	Low	16	21.3	36	48.0	
	Medium	20	26.7	35	46.7	40.28*
	High	39	52.0	4	5.3	
5.	Risk preference					
	Low	24	32.0	46	61.3	
	Medium	4	5.3	18	24.0	38.16*
	High	47	62.7	11	14.7	

*Significant at 5% level of probability

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Table-1 indicated that in the economic motivation value, a majority (53.3 percent) of the adopters had high economic motivation and 24 percent of them had low economic motivation. In contrast to this, 50.7 percent of the non-adopters had low economic motivation (very least percent--12·0--of them) had high economic motivation. Results indicated significant association between the economic motivation of adopters and non-adopters. It can be concluded that the adopters had high economic motivation value and they were more oriented towards economic ends than non-adopters. This was in confirmity with the studies of Bose (1962).

Regarding scientific orientation value, adopters had more scientific outlook than non-adopters. As high as 56 percent of the adopters belonged to high scientific orientation category and 22.7 percent of adopters are in medium scientific orientation catagory. Almost the equal percent of them are belonged to low scientific orientation catagory. Whereas, just 5.4 percent of the non-adopters belonged to high scientific orientation catagory (49.3 percent of them belonged to the low scientific catagory). There was a significant association between scientific orientation of adopters and non-adopters as evidenced by chi-square value. Thus the adopters had scientific orientation than non-adopters. It may be the fact that scientifically developed knowledge seems to be more valid than common sense knowledge and beliefs based on traditions.

Adopters had more of independence value than non-adopters. It is revealed that 49.3 percent of the adopters and as low as 9.3 percent of non-adopters belonged to high independence category, whereas 24 percent of adopters and 48 percent of non-adopters belonged to low independence catagory. There was a significant association between independence of adopters and non-adopters. Adopters with higher education try to apply problem solving method in order to understand the world around them and thereby develop an ability to analyse and evaluate the things or situations while making a decision.

Majority (52 percent) of the adopters belonged to high mental activity catagory. Only 5.3 percent of the non-adopters belonged to a high mental activity catagory. Almost an equal percent of the non-adopters belonged to low and medium mental activity category. Chi-square value indicated that there was association between mental activity of adopters and non-adopters. Possible reasons might be that adoption process involves mental evaluation of the practices recommended to the farmers and as it also involves decision making which includes selection of means for the achievements of specified goals. This process of selection of means for achievement of a specified goal greatly depends upon his mental activity values.

There was a significant association between the risk preference of adopters. As high as 61.3 percent of non-adopters belonged to low risk preference category. On the

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other hand, 62.7 percentage of adopters belonged to high risk preference category. However, 32 percent and only 5.3 percent of adopters belonged to low and medium risk preference categories. There was a significant association between risk preference value of adopters and non-adopters. Degree of knowledge and information pertaining to the outcomes of the alternatives influence the farmers decision about innovations. Adopters with more knowledge about the new technology held high risk preference value. Thus among all the five values, risk preference value was held by most of the adopters. Chi-square results indicated significant association between value orientation of adopters and non-adopters.

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Book Review

1. Stroebe, W., Kruglarrski, A. W., Bar-Tal, D., Hebstone, M. (Eds.); *The Social Psychology of Intergroup conflict : Theory, Research and Application.*, 1988, 198 pp, DM 126, Berlin-Heidelberg-New York Springer-Verlag.

This unique book was written as an outgrowth of a planned social intervention aimed at encouraging social relations between two groups. For the every human society conflictual relations between social groups is a pervasive feature. In the first chapter, Psychological processes in Intergroup conflict, the authors condor and Brown presents current and exuclusive materials on Interergroup conflict an a product of Universal Psychological characteristics Individual Differences, Approaches to intergroup conflict and application of psychological theories of Intergroup conflict.

The whole book has been divided into four parts. The part 2nd deals cognitive and motivational bases of conflict in which the two bases of Intergroup conflict i. e., Judgemental processes and Attributional bases has been discussed. The part 3rd, on 'The maintenance of conflict' defines political terrorism and also describe Israeli view on social Identity and Intergroup conflict. The part IV deals with the resolution of conflict. Two assumptions systematically desciribed by the authours of last chapter why they included the impact of student exchange on national stereotypes and attitudes in a book of conflict.

Overall the present springer series in social psychology is a formidable resource for those psychologists, Educationists and sociologists who are working with Intergroup conflict political terrorism social Identity Bargaining and Arbitration in the Resolition of conflict and Negotiating with terrorists.

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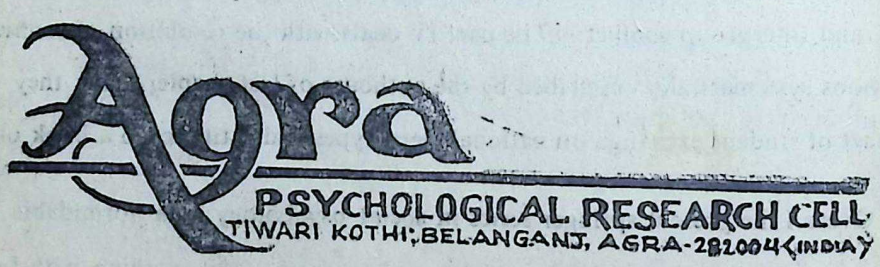
2. Schneider, B. H., the Gifted Child in Peer Group Perspective. 1987, pp. 115, DM 65, Springer-Verlag, ISBN 3—540—96534—3.

The present Book which is based on the author's experience during working as School Psychologist. The authour, Schneider himself maintain in preface that "My interest in the subject matter of this book, the peer relation of gifted children, intensified enormously as result of my involvement with one gifted child during my days as a school psychologist". He described systematically and extensively 'what is best for gifted children'?

The whole book has been devided into seven chapters. There is an excellent rewiew of the literature that includes peer acceptance of gifted children, Early peer relations of the eminent, the social selfe-concepts of gifted children, school life and the social development of the gifted.

At last but not the least Schneider has written an important book in excellent writing styles that will be helpful to several group of readers and specially to School Psychologists.



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A study on Information Source Consultancy Pattern of Trained and Untrained Farmers

Manjunath L., Sethu Rao, M. K. Budhial, R. A. and Nidagundi F. R.

INTRODUCTION

Farmers are influenced by various formal and informal sources of information at various stages of innovation decision process. And they do not attach same credibility towards all those sources of information. Hence, a study is required to know the sources consulted and preferred by them so that those could be intensively used for quick and better dissemination of agricultural innovations.

Keeping this in view present study was designed to know the sequential sources of information consulted by trained and untrained farmers with respect to recommended practices of soil and water management as well as hybrid maize cultivation practices. Knowing the most consulted source of information by farmers helps the extension worker to disseminate agricultural information through selected channels for maximum influence.

Review of Literature

Gangadharappa (1979) reported that village level workers were the most consulted source of information by trained and untrained farmers. Ravikumar (1979) reported that demonstration is the most consulted source of information by the non-participant farmers.

Methodology

The study was conducted in 8 villages spread over 4 talukas of Bijapur and Belgaum Districts of Ghataprasta command area of Karnataka State. The sample consisted of 88 trained farmers who had grown hybrid maize and another 88 matched farmers who were not trained at the farmers training centre. The data was collected with the help of a schedule by personal interview method. Farmers were asked to indicate 3 sources of information they consulted in order of preference out of 9 sources., Weights were given according to the order of preference. The scores obtained for each source of information was tabulated. Then rank order was arrived depending upon the extent of sources obtained in the descending order.

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Results and Discussion

It was fascinating to note from table that most of the trained farmers as well as untrained farmers have attached most preference to village level workers, and demonstration. This may be due to the fact that these sources were locally available for greater interaction as well as demonstration provided conviction among the farmers.

Table 1 : Information Source consultancy pattern of the trained and untrained farmers.

Sl. No.	Name of Source	Trained farmers		Un-trained farmers		Remarks
		Score	Rank	Score	Rank	
1.	Village level workers	150	1	132	2	
2.	Other formal personal source	38	9	37	8	
3.	Farmers Training Centre	84	7	33	9	
4.	Other Institutional source.	45	8	45	7	
5.	Radio	102	4	113	4	rs=
6.	News paper	95	5	94	6	0·8156**
7.	Progressive farmers	129	3	108	5	
8.	Other informal personal source.	90	5	123	3	
9.	Demonstration	141	2	140	1	

** Significant at 1% level.

Progressive farmers and other informal personal sources like neighbours and friends, village leaders and relatives were also found to influence both the groups. The reason might be due to their local availability and mutual bonds between them.

Radio and newspapers were found to be next frequently contacted sources and reason might be the regular and topical continuous programmes over radio.

The sources least consulted by both the respondents were training centre, Institutional source like Agricultural College, and other formal personal source like Assistant Agricultural Officer. The reason for least consultancy might be that they are not located/available locally.

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"A Study of Deprivation and Level of Aspiration of High School Students."

Dr. R. D. Singh*

The purpose of the present study was to find out the effect of deprivation on level of aspiration of high school students : for this 450 students were selected in the age-range of 14 to 17 years. The study revealed that there were no effect of deprivation on level of aspiration.

INTRODUCTION

The term deprivation originates from the verb "to deprive" which means to dispossess or strip (a person or an object) and it implies a felt loss. Sinha (1977) feels that deprivation stands for certain deficiencies in the environment, which are not only there but are also experienced as such by the individual. Actually deprivation is the feeling of ignorance and loss of physical and environmental facilities. It is basically a mental and indicates a man's state of mind.

The term level of aspiration is the level at which a person sets certain goals and hopes to reach them. It is the standard by which a person judges his performance as good or bad, which is different from the achievement, In this way the process of achievement were going through level of aspiration.

Man lives in complex and multifaceted environment and his adjustment largely depends upon the degree of his competence. The competence of a man largely depends upon his level of aspiration. Where deprivation is a negative variable from which the psychological variable like achievement, adjustment and level of aspiration were negatively affected.

Bist (1972) studied the level of educational aspiration in relation to socio-economic condition and educational attainments, and pointed out that the size of the family, educational facilities, recreational facilities, parental education and income were found to have significant influence on educational aspiration, urban boys were showing higher educational aspiration than rural boys.

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But none have studied the effect of deprivation with its 15 aspects of deprivation on level of aspiration.

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In the present study the investigator had tried to determine the correlation effect of deprivation with its various areas on level of aspiration on high school students.

Hypotheses : Keeping in view the objectives of the study, the following hypotheses were proposed to be tested :

1. There is no significant relationship between deprivation and level of aspiration.
2. There is no significant relationship between deprivation and level of aspiration of rural and urban students.
3. There is no difference in the mean scores of level of aspiration of rural and urban deprived students.
4. There is no difference in the mean score of level of aspiration of high & Low, high & middle and middle & Low deprived students.

METHODOLOGY

Sample : The 450 students age range from 14 to 17 years were selected from rural, urban, developing, under developing and developed area of Gorakhpur, Basti and Deoria districts through startified random sampling method.

Tools : (a) Prolonged deprivation (PDS) (Misra & Tripathi 1976), in this scale 96 (five point scale) items which is devided into 15 area of deprivation. The index of reliability of the scale is ·95.

(b) Level of aspiration test (Shah & Bahuguna 1974). The reliability of the test was found to be ·84. The test sheet have 50 circle (each of 1k. m. india meter) arranged in five rows, 10 in each row. There are two boxes in right side. The upper box is for expected score and lower box is for putting the number of actual score.

Procedure : Both tests were administered on the same students selected in the sample. The procedure were followed as prescribed in the respective manual. The data were analysed with the help of linear correlation, f ratio and tratios. The cut off point of significance level were ·05.

RESULTS AND DISCUSSION

The results regarding the correlational significance of deprivation and level of aspiration as well as rural and urban boys have been presented in Table 1 & 2 and the result regarding the significance of the difference between the mean score of rural and urban boys as well as the difference in the deprivational level are presented in Table 3 & 4.

Table 1 : Correlation between deprivation and level of aspiration

Factor		r	Level of significance
Deprivation and (GDS) Level of aspiration	450	—·075	in significant

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Table-3 : Correlation between rural & urban deprived students and level of aspiration

Location	N	r	Level of significance
Rural	260	−·083	insignificant
Urban	190	−·040	insignificant

Table-2 : Mean scores of rural and urban students in level of aspiration test (GDS)

Locality	N	Mean	S.D.	6n	6d	CR	Level of significance
Rural	260	4·35	1·66	1·62			
					2·25	·08	insignificant
Urban	190	4·166	2·16	1·52			

Table-4 : Source of variance and fratic

Sources	Sum of squars	df	Mean variance	f ratio	Level of significance
Between colum (rural & urban)	58·01	1	58·01	·139	insignificant
Between rows (High, middle & low)	1252·23	2	626·12	1·53	insignificant
interaction	14·44	2	7·22	·01	,, ,,
within	22447·50	54	415	1	,, ,,
Total	23772·18	59			

The results presented in Table 1 and 2 reveal that there is negative and insignificant relationship between deprivation and of level of aspiration. These values shown high deprivation, lower down the level of aspiration. The goal setting as a function of level of aspiration depends upon the resolution of previous achievement and degree of determination. A dispirated students cannot set high goal. Which is also supported by Bist (1972). But it is also revealed that deprivation is not much effective on decreasing the level of aspiration according to the insignificant result. Which is against the result of Bist

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(1972). Even in rural and urban areas relationship is negative but insignificant. Which is also supported by table 3 and 4. The insignificant result of differences between mean scores of rural and urban boys in level of aspiration deals that there are no effect of locality on level of aspiration of high school students.

The result of fratio against locality (rural & urban) again supported it. It is also present that there is no significant difference in the scores of level of aspiration of high, middle & low deprived students. Which is again revealed that level of aspiration were not affected by the level of deprivation (high, middle & low) also.

Thus it may be concluded from the finding of the present study that even deprivation is a negative factor, but level of aspiration were not much affected. In this way the effect of deprivation should be removed through improving the level of aspiration and could be better achieved for proper adjustment of a person.

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Effect of Academic Environment on Creativity of Children

Asha Kumari, Indra Kumar Roy & Narendra Kumar Pandey
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BIHAR

The present study was aimed at investigating the effect of academic environment on the creativity of children (Ages 12-16). The Baqer Mehdi Verbal Test of creative Thinking was administered on 200 school children out of which 100 were from the convent and 100 from the traditional schools. The differential effect of the two types of school environments was examined. For mean comparisons of the two groups of children means and SDs were computed for fluency, flexibility, originality and composite creativity scores and to find out the significance of difference t-test was applied. The results revealed that the convent school children were more creative than the traditional school children.

INTRODUCTION

Creativity playes vital role in the progress of society. It is important even for the survival of the mankind. Morena (1934) has rightly emphasized the significance of the creative act in his famous book "who shall survive ?" In his opinion "creativity factor leads humanity to respond constructively to new situations rather than merely to adapt to new situation". He has further used this concept to explain how some societ es are capable of providing higher standards of liking than others on the basis of their creative acts. He has remarked". The future of a culture is finally decided by the creativity of its carriers".

Background factors like l ome, socio-economic status, culture, school etc. Play a vital role in the development of creative potentials. Right from birth the individual lives in some sort of environment. Some environments are conducive for the development of creativity, whereas others are detrimental. Of all the environmental factors the school plays most significant role in the development of creative potential. Gupta (1976-77) While surveying literature on home & school environments reported that understanding of the dynamics of environmental variables was essential for creativity.

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Generally it is found that school programmes are not adequate for the proper development of creative potential in the children. It may be due to the lack of proper understanding of the creative process or the factors which may accelerate or hinder the development of creativity indentifying the creative children.

Vernon (1967) has expressed this view in the following words "The present systemt is criticised for favouring the conformists mentality the pupil or student who is good at accepting the learning what his teachers and lecturers tell him and thinking and writing along conventional lines, whereas it discourages spontaneous and independent thinking . ?" Similar views have been expressed by Thomson & Debold (1971). He is of the opinion that the prevailing educational structure is hampering the development of creative potential in the children. Goyal (1973) also holds the same view and indicates the adverse effect of over emphasis on conformity, rigidity, strict obedience and traditionalism in schools. Infact, creativity can take place only in free school environment where childs imagination is given a chance of free play.

Snyder (1966), Haddon & Lytton (1968), Barker, Lunn (1970), Mihaleviciet, al. (1973) found that the type of school in which the students received training, greatly influenced their creativity. Sullivan (1974) Klein (1975), Soloman, & Daniel Kendall (1976), Hyman, Ruth, E. (1978) also indicated that open class-rooms were more conducive to creativity than traditional class-rooms. Thomaa, Nancy G. and Berk, Laura E. (1981) examined three types of school environment-informal, intermediate and formal and found informal school environment leading to the greatest growth in creativity. It was also found that the teachers tented to view creative children positively and as well adjusten to the class-rooms in snch school envirnment.

The present study aimed at investigating the effect of the academic envirnment on creative abilities of school children. The two types of academic envirnments, one represented by the convent school aud the other by the traditional school were taken into consideration. The convent school envirnment was supposed to facilitate the development creativity, whereas the traditional school environment to hamper creativity, in children. So it was hypothesized that the convent school children would be more creative than the traditional school children.

METHOD

The study was conducted on convent & traditional school children of Darbhanga district. The total sample consisted of 200 students of the age gsoup 12-16 yrs. Out of which 100 from convent school and 100 from traditionai school.

The sample was fairly representative of the Socio-economic range of Darbhanga. The sampling method used in this study was closer to the incidental sampling because whosoever was present in the class was included in the sample barring a few who expressed their inability to take the tests.

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The Baqer Mehdi verbal test of creative thinking was applied to assess the creative ability of the children reading in convent and traditional schools. The test was administered on the class-room consisting of not more than 30-35 students at a time.

Results and discussion

In order to analyse data the means and SDs of the comparison groups were computed for different dimensions of creativity Viz. fluency, flexibility, originality and composite creativity scores and the t-test was applied to find out the significance between the mean scores of the two comparison groups. The results are presented in Table 1, 2, 3, & 4.

Table-1. Mean comparisons of the convent & the traditional school children on fluency scores.

Groups	N	Mean	SD	t	P
Convent school children	100	57.6	13.978	9.177	.01
Traditional school children	100	41.6	11.14		

It is evident from the table that the convent school children have higher mean scores (57.6) on fluency that the mean scores (41.6) of the traditional school children and the difference between the two mean scores is significant beyond .01 level of confidence.

Table-2. Mean comparisons of the convent and the traditional school children on flexibility scores.

Groups	N	Mean	SD	t	P
Convent school children	100	38.85	7.164	12.579	.01
Traditional school children	100	27.55	6.28		

The results in the table reveal that the convent school children have higher mean scores (38.85) on flexibility than the mean scores (27.55) of the traditional school children and the difference between the two mean scores is significant beyond .01 level of confidence.

Table-3. Mean comparisons of the convent and the traditional school children on originality scores.

Groups	N	Mean	SD	t	P
Convent school children	100	18.35	7.805	9.059	.01
Traditional school children	100	10.14	4.605		

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It is obvious from the table that the convent school children have higher mean scores (18.35) on originality than the mean scores (10.14) of the traditional school children and the difference between the two mean scores is significant beyond .01 level of confidence.

Table-4. Mean comparisons of the convent and the traditional school children on composite creativity scores.

Groups	N	Mean	SD	t	P
Convent school children	100	111.5	18.84	11.636	.01
Traditional school children	100	77.5	22.34		

From the table, it is clear that the convent school children have higher mean scores (111.5) on composite creativity than the mean scores (77.5) of the traditional school children and the difference between the two mean scores is significant beyond .01 level of confidence.

The results in table 1, 2, 3 & 4 indicate clearly that the different types of schools (the convent and the traditional schools) having different kinds of academic environment have differentially affected the fluency, flexibility, originality and the composite creativity scores of the school children. This differential effect can be explained on the basis of two different kinds of environment in the two types of school. Generally it is found that the convent school teachers encourage their students to ask questions freely, whereas the traditional school teachers having authoritation attitude do not allow their students to ask questions freely. It is true that the student—teacher relationship is importent factor in the development of creativity. The teachers own level of creativity and teaching style have also direct influence on students incentive, behaviour and creativity. To sum up, the school conditions, teachers behaviour in the class-room, teaching methods and teaching materials and children's motivation differ as regards the convent and traditional school and they are to a great extent responsible for the differences. Emphasizing the role of external environment wininger. (1977) has rightly remarked "Creativity can be fostered by providing an external environment that supports the complex internal process that leads to creative expressions."

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Vocational Choices of Secondary School Students in India

B. L. RAINA

INTRODUCTION

It is accepted in our country that organisation of higher secondary education and especially its vocationalization are necessary if education has to pay a role in the national development. Education in India has been for long theoretical and bookish, usually meant for white collar jobs. But has reached to a point of saturation now. There are lakhs as unemployed on the employment registers. There is a long transition between accepting the principle of vocationalisation and implementing it in practice. In order to cope with the new demands, an internal restructuring and modification of content in education and strong links to be developed between the school and departments, agencies and enterprises concerned with "development" such as industries and commerce, agriculture, health and community development. New thinking and consciousness are needed among educationists and the leading people in other spheres of life.

As the vocationalisation is a major transformation in education and can not be achieved without structural and functional changes in the whole set up. Education is to be organised in such a manner as can enable the individual particularly school goers to be equipped as to be able to find opportunities for self-employment or for work in actual life. In this regard different education commissions, right from the Calcutta University Commission (1919) to 'challenge of education' (1986) have laid stress upon the vocational education at the secondary stage. On the basis of recommendations of the Kothari Commission, the educational planners have brought in the concept of vocationalisation in terms of socially useful productive works and the organisation of vocational education at secondary level.

As the term 'vocation' is concerned, it is a continuous purposeful activity of an individual to satisfy various needs and to solve the problems of life. 'Vocational Education' is a comprehensive term embracing those aspects of the educational process involving in addition to general education, the study of technologies, related sciences and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupation in the various sectors of economic and social life. It is socialistic in the sense that according to the needs of the changing society various vocations come to the fiield, but proper adjustment with a particular vocation has it's impact upon enrichment of life, and it depends upon intelligence, aptitude, interest and creative potentialities of an individual. In order to carry out a specified job efficiently, a sound vocational training, knowledge of

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vocational interests and preferences of the individual are inevitable. On the contrary, if he goes through the training on a preferred vocation, he can get job satisfaction from the vocation and the individual shall be well placed. It adds to the efficiency of the person by exhibiting best in him on the job, moreover, it helps to increase national economy by performing qualitative and useful activities. Therefore, before providing for a vocational training the organisers and planners should try to know which vocations are preferred by the people of different areas. Some of the main studies in this direction are : "Vocational preferences of high school students conducted by Pandey (1960), Aggarwal (1962), Singh (1962), Pangotra (1964), Rai (1971), Bayti (1975), Urmila (1976), Sahoo (1977). In addition NCERT has conducted a few studies on vocationalisation of education, West Bengal, in 1979 and A. P. (1981). All these studies stress the need for vocational preferences prior to providing, a specific vocational training programme. The limitations of these studies excepting a few were not conducted keeping in view proposed vocational education based on rural industries, agriculture and related vocations. On the recommendations of the Education Commission (1966) all most all the states and union territories have introduced 10+2+3 pattern of Education. At present there is a felt-need to conduct some studies on vocational preferences of 10th grade students, in different states at local level, so that planners would arrange accordingly in different states. In order to cope with the practical difficulties of course patterns, equipments, workshops, teachers, landed property and other related amunities are needed. To avoid amorphous nature of vocationalisation at+2 stage in different states, need of present study was felt. In Jammu & Kashmir no such study was carried out to find out vocational choices of high school students with reference to lower, middle and higher income groups. Hence, there was a justification for conducting a study on vocational preferences of Xth Grade students belonging to different economic strata-keeping in view, the implementation of vocational education at+2 stage.

OBJECTIVES OF THE STUDY

1. To find out the most preferred vocations by class X students.
2. To study whether there were any differences in vocational preferences among economically well off and backward children.
3. To find out the differences in preferences of rural and urban boys.

Methodology : The present study was confined to two districts of Anantnag and Srinagar of Jammu & Kashmir State. Six schools, three rural and three urban were randomly selected from each district. All 10th grade students of the twelve selected schools (six from each district). Four hundred students (200 each from rural and urban) formed the sample.

Tools : A questionnaire having 100 items on 25 vocations (4 items for each vocation) was developed by the investigator. To avoid vagueness of the items and to assert it's validity the questionnaire was given to 10 experts ond according to their suggestions, it was suitably modified. Then the questionnaire was administered on the students by the investigator and the responses to each items i. e., *very much, much and not at all* was scored as 3, 2 *and* 1 respectively. The total score for each of the 25 vocations was found separately.

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Procedure : The categories of the economic levels were made through p_{25} (Q_1) to P_{75} (Q_1) of the income distribution. 84 pupils having income above P_{75} (Rs. 700/- and above) came under high economic group ; 100 having below P_{25} (Rs. 394/-) remained under low economic group and 216 with income within (Rs. 394/-to Rs. 699/-) was considered as middle income group.

The analysis was done to mention the sequence of preferences of different vocations according to obtained mean scores. Comparisons, by computing the significance of the differences between two sample means and the inferences were drawn for all the twenty five vocations. The 't' test was used for the comparison of rural and urban boys and for three in come groups.

Table-I Vocationwise Mean of Rural Urban Boys.

Sr. No	Vocation	Grand Mean	*Mean* Rural	Urban	*S.D.* Rural	Urban	SE of diff. between	Obtained diff.	CR	Value of significance
1.	Agriculture	4·86	5·12	4·65	1·79	1·50	1·20	0·47	0·39	N. S.
2.	Book keeping	4·91	5·22	4·60	1·6	1·4	1·20	0·62	0·52	,,
3.	Radio, T.-V, Mechanic-	5·04	5·33	4·75	1·6	1·56	1·55	0·58	0·37	,,
4.	Spinning & Weaving	4·28	4·46	4·1	1·6	1·41	1·24	0·36	0·29	,,
5.	Fishery	4·55	4·5	4·5	1·5	1·44	0·33	0	0	,,
6.	Arts & Crafts	4·67	4·6	4·73	1·8	1·58	1·70	0·13	0·08	,,
7.	Cutting & Tailoring	4·49	4·59	4·36	1·6	1·49	1·55	0·23	0·15	,,
8.	Packing	4·61	84·81	4·41	1·6	1·52	1·55	0·40	0·26	,,
9.	Drawing & painting	4·47	4·36	4·58	1·6	1·93	1·78	0·22	0·12	,,
10.	Type-writing	5·56	5·32	5·32	1·47	1·72	1·91	0·30	0·16	,,
11	Announcing & composing.	5·12	4·65	5·59	1·8	1·75	1·76	0·07	0·04	,,
12.	Rearing of Silk Worms	4·60	4·84	4·36	1·55	1·56	1·55	0·48	0·31	,,
13.	Lib. Science	4·03	4·25	4·81	1·82	1·63	1·75	0·56	0·39	,,
14.	Business	4·88	5·02	4·76	1·66	1·93	1·75	0·26	0·15	,,
15.	Teaching	5·06	5·41	4·71	1·76	1·70	1·76	0·40	0·23	,,
16.	Medicine	5·58	5·17	5·98	2·19	2·02	2·21	0·81	0·37	,,
17.	Police Servics	4·68	4·74	4·62	2·02	1·90	1·12	0·12	0·10	,,
18.	Forestry	5·08	5·15	5·01	1·65	1·81	1·76	0·14	0·07	,,
19.	Tourism	4·96	5·06	4·86	1·99	1·96	1.99	0.20	0·01	,,
20.	Dairy Farming	4·06	4·1	4·02	1·66	1·61	1·69	0·08	0·001	,,
21.	Engineering	6·04	6·01	6·07	1·88	1·89	1·99	0·06	0·001	,,
22.	Photography	5·53	4·55	4·51	2·13	2·01	2·10	0·04	0·001	,,
23.	Embroidary	4·31	4·58	4 04	1·66	1·36	1·24	0·54	0·43	,,
24.	Hotel Management	5·06	4·88	5·24	1·84	1·84	1·17	0·36	0·18	,,
25.	Horticulture	5·51	4·78	4·25	1·70	1·73	1·76	0·53	0·30	,,

N.S. = *Not Significant*

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Table I reveals that there was not significant difference between rural and urban boys of kashmir valley in choice of twenty five vocations. In other words vocational choices were almost similar in both the cases.

Table-II : Means of High, Middle and Lower Income Groups Vocationwise.

Sr. No	Vocation	H. I. G. Means	M. I. G. Means	L. I. G. Means
1.	Agriculture	3·64	4·46	5·98
2.	Book Keeping	3·05	4·5	5·12
3.	Radio & T-V mechanic	4·17	4·9	5·56
4.	Spinning & Weaving	3·79	4·49	4·84
5.	Fishery	3·05	6·37	5·14
6.	Arts and Crafts	3·59	4·22	5·78
7.	Cutting & Tailoring	3·93	4·28	5·6
8.	Packing	3·97	4·54	5·58
9.	Drawing & Painting	3·79	4·86	4·6
10.	Typewriting	3·86	5·8	5·98
11.	Announcing & composing	4·5	5·15	5·0
12.	Reading of silk worms	4·29	4·13	5·36
13.	Lib. Science	3·70	4·74	5·46
14.	Business	4·81	4·54	4·48
15.	Teaching	3.64	4·5	6·13
16.	Medicine	6·19	6·13	4·78
17.	Forestry	4·14	5·09	5·9
18.	Tourism	5·6	5·18	5·04
19.	Police service	5·55	6·22	5·54
20.	Dairy Farming	4·7	4·32	5·68
21.	Engineering	6·26	5·06	5·18
22.	Photography	4·73	4·5	5·14
23.	Embroidery	3·83	4.59	5·74
24.	Hotel Management	5·69	5·16	5·32
25.	Horticulture	5·11	4·72	5·56

Table II reveals that higher income group students prefered mostly the vocation of Engineering, medicine, tourism, Hotel Management, police, Business, Announcing and Composing, while boys belonging to low income group prefered, teaching, Agriculture, Typewriting, Forestry, Arts & Crafts, Dairy Farming Packing and Embroidery. But the Middle income group boys prefered the professions of Fishery, Police Service, Medicine,

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Typewriting, Tourism, Hotel Management, Announcing and Composing and Radio, T-V mechanics.

The vocational choices of the total group in rank order are exhibited in the following table.

Table III : Vocational Choices in Rank Order of the Total Group.

Sr. No.	Vocations	Means
1.	Engineering	6.04
2.	Medicine	5.58
3.	Typewriting	5.56
4.	Announcing & Composing	5.12
5.	Forestry	5.08
6.	Teaching	5.06
7.	Hotel Management	5·06
8.	Radio, & T-V Mechanics	5.04
9.	Tourism	4.96
10.	Book Keeping	4.91
11.	Business	4.88
12.	Agriculture	4·86
13.	Police Service	4.68
14.	Arts & Crafts	4.67
15.	Packing	4·61
16.	Rearing of Silk Worms	4·60
17.	Fishery	4.55
18.	Photography	4.53
19.	Horticulture	4.51
20.	Drawing & Painting	4.47
21.	Cutting and Tailoring	4.47
22.	Embroidery	4.31
23.	Spinning & Weaving	4.28
24.	Dairy Farming	4.60
25.	Lib. Science	4·03

Table III reveals the vocational choices of X class students in rank order. The most prefered professions were : Engineering and Medicine with the means of 6.04 and 5.58 respectively. Least prefered were profession of Library Science, Dairy Farming and Spinning & Weaving.

DISCUSSION

If the findings of the study can be viewed in connection with the results of other studies conducted earlier, some sort of novelty can be marked in the present study, Rai's (1971) study brought-forth that the high school students of Haryana had given first preference to nine different jobs viz., Medicine, Teaching, Law. Military, Engineering, Business Management, Politics, Agriculture and Science. The study by Urmila (1976) indicated that mostly urban students preferred the vocations vis., Enggineering Medicine, Law and Military Service, whereas most of the rural students prefered Agriculture and teaching

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vocations. Sahoo's (1977) study revealed that more preferences were towards the vocations of Agriculture, Fishery, Dairy Farming, Home Science, Stenography, Music & Mechanical jobs. But in the present study it was found that the 10 th grade school students, showed preference in order to the vocations of Engineering, Medicine, Typing, Anouncing & Composing, Forestry, Teaching, Hotel Management an d Tourism.

In case of rural and urban students it was found that there was no significant difference on choice of vocations, Regarding economic class differences for vocational preferences, studies of Agrwal (1967) & Urmila (1976) sh ow that the students belonging to higher, middle and lower income groups showed more perferences to vocations like professional jobs, business, and military services. But no differences were found among them in case of professional and business vocations. The middle and higher income groups showed more preferences towards administrative jobs while as lower income group towards clerical and manual occupations. Urimila's socioeconom ic status showed more preference the vocations of Medicine, Law, Engineering and Busine ss in comparison to middle and low economic status. Sahoo's study (1977) provides the in formation that nature of vocations are related to the status of students and how differences in vocational preferences have been marked accordingly. Students showed first preferences to Agriculture vocation because eighty percent of the inhabitants depend upon agricultural vocation. All groups of students gave first choice for this vocation, the low income group students showed more preferences than other two income groups. The vocations like Mechanicals, Stenography, Fine Arts, Book-bindings, Carpentry, agd Masonary are not considered as good jobs in the State. These vocations except Mechanicals did not draw more attention of students in general, but in comparison higher and middle class students, lower class students showed more preferences. The vocations like electricals, Home Science, Fishery, Nursing and Music were prefered by all groups of the students and no differences have been marked among three income group students. Present study indicates that the rural and urban boys of both the districts mostly prefered the professions of Engineering and Medicine and least prefered vocations were Dairy farming, spinning and weaving and Lib. science. The analysis of data revealed that vocational choices displayed by urban and rural boys did not differ significantly. Income of parents did not effect the vocational preferences of students. There was no difference among different income groups on vocational choices.

Some of the main reasons for this may be that the professions of Medicine and Engineering are prestigious professions in the valley while as the profession of Dairy, Salesmanship, Craftsmanship and Embroidery do not carry any social prestige. It is because of social approval that these professions draw little interest. Secondly Kashmir being a cold zone with its peculiarities of life style and having severe winter of sixa months, common man remains idle. So because of the continuity and uniformity they prefer Govt. service. While as many vocations of business and handicrafts are domestic and subsidiary in character. More so once in a while business sector also is shaltered due to lack of turn over. Thirdly state received helps of money from national Government

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for development and welfare of the people, which led to creation of many jobs and in order to cover the risk, natutal claminities and above all easy earning led people to join Govt. service. Automatically youth also got interested and banker after Govt. jobs. Fourthly in 1973, there was organised a crash programme for employment. All the graduates and matriculates with BEO were absorbed in different government departments as per the requirements without selection test or interview also led to opting for government jobs.

Our country being a rural based agricultural country, need the people in farming and other manual fields. But now-a-days educated youth show their dislike towards rurral community and manual work. Economy is also likely to suffer. To save the country from disaster urbanisation, we should develop small scale industries and cottage industries in rural settings to that industrialisation, increase in trade and commerce, modernisation of agriculture and trained personnel in different fields are unavoidable. Rural areas need to be developed in such a way, that the industry in the rural sector requires trained manpower. It need to result in rural institutes, that need to take lead in training the manpower for rural industry. The under priviledged and women the particular need tobe absorbed in the world of work without migration from rural sector. It has the natural resource. Mobilisation of natural resources need manpower. It can be possible only when our national education will be related to training of the personnel from the beginning to handle various jobs as per their preferences and aptitudes. Hence, there is a need for reconstruction of education according to needs and demands of time and society.

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An Investigation into the Personality Factors In the Context of Innovativeness of the Teachers

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INTRODUCTION

Why are some innovations not accepted and implemented ? Many ideas are never implemented because of their inherent limitations, improper diffusion strategies and misjudgements of their acceptibility. Here, one important factor is missing and that is human element which plays the dominant role in the acceptance or rejection of innovation. That human element the teacher is the back bone of the entire educational structure. Shah G.B. (1983) has aptly said :

> "The future of India is being shaped or even deshaped in our classroom at the hands of about 3.5 million teachers, most of them tradition bound but a few of them innovative. Innovative teachers no doubt constitute a small minority and yet they are the one who really matter".

It has been found from the previous researches that a teacher cannot remain effective if he is not innovative, not ready to accept and implement new ideas in the field. The degree of innovativeness varies from individual to individual and whether it is affected by the personality factors or not is the question of study.

The Problem : Reviews under the stream innovation especially concerned with the characteristics of innovative schools and correlates of acceptance of innovations by school. Reviews under the stream teacher behaviour reflect the studies on teacher effectiveness and the teacher characteristics. Very few attempts have been made to study the characteristics of innovative teachers. None has tried to correlate the factors related to innovativeness and personality traits of the teachers. Hence, it was worth while to study the personality factors in the context of innovativeness of the teachers.

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Formulation of Hypotheses

The null hypotheses generated were as under :

1. There is no significant difference in the mean scores of personality trait of high and low innovative teachers.
2. There is no significant difference in the mean scores of personality trait of male and female teachers.
3. There is no significant interaction between independent factors of sex and innovativeness.

Procedure :

Sample : In all 90 teachers of secondary schools were selected. Out of those 90 teachers 50% weightage was given to sex criterion. Over and above the proporation of the teachers from urban and rural areas was also equal. All the teachers were selected randomly from some of the schools of Kheda district. Out of these 90 teachers, the 20 low innovative teachers and 20 high innovative teachers were selected for the purpose,

Tools Used :

1. Innovativenses inventory constructed and standardized in Gujarati by the author of this article was used to measure innovativeness of secondary teachers and thereby to classify them into low innovative and high innovative one. The reliability index of the said inventory is 87.
2. 16 P.F. test questionnaire (Form C) adopted from Cattell R.B. was used to measure the personality for the purpose. Reliability index was found out by testretest method and it was 0.67. Hence, it was found to be reliable.

Research Design : A factorial design of 2×2 was invoked in which teacher's innovativeness had 2 levels—the low and the high innovativeness and the sex of the teachers had also 2 levels operating in the design. The above two groups of the innovativeness and sex groups of the teachers acted as independent variables while the personality factors acted as dependent variable.

Data Collection : Randomly selected 90 teachers were given Innovativeness Inventory devised by the author and the scores of innovativeness were found out. The two groups of low and high innovative teachers were formed by taking into consideration the Q_1 and Q_3 values of the innovativeness scores (Q_1=385.9 and Q_3=438.1).

To obtain the personality scores of the teachers, 16 P.F. test questionnaire (Form C) adapted from Cattell R.B. was administered to the same teachers.

The personality scores of the pupils falling in different calls of 2x2 factorial design were tabulated and their sums and variances were computed and tabulated in table 1.

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Table—1. Sums and Variances of 2x2 Factorial Design Representing Innovativeness grs. X Sex.

Sex		Low Innovativeness	High Innovativeness
Male	N	10	10
	Σx	892	1029
	Σx^2	79638	106275
	$\overline{X}$	89.2	102.9
	σ^2	7,96	43.43
Female	N	10	10
	Σx	885	949
	Σx^2	78861	90515
	$\overline{X}$	88.5	95.9
	σ^2	59.8	50.54

From the above data, the ANOVA was computed, the summary of which is presented in table 2 below :

Table—2. Anova Summary of 2x2 Factorial Design.

Sources	df	S.S.	M.S.S.	F	Significant level
A	1	1010.03	1010.03	28.06	0.01
B	1	189.23	189.23	5.26	0.05
AxB	1	133.23	133.23	3.70	n.s.
Error	36	1455.57	40.43	36.00	

Results :

Study 1 : *Innovativeness Vis-a-vis Personality*

Whether innovativeness of the teachers affects the personality of the teachers or not was a question of research. In order to test this a null hypothesis was formulated put to F-test.

The F-value of the above effect is 28.06 which is significant at 0.01 level. Hence, the null hypothesis was rejected and it was concluded that the teachers having low innovativeness and high innovativeness differ in personality traits. It was concluded that the mean scores of the personality of high innovative teachers was greater than that of non-innovative teachers.

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Study 2 : *Teachers' Sex Groups Vs Personality*

The second null hypothesis of the effect of the levels of sex groups of teachers was also negated because of significant F-value 5.26 at 0.05 level. This means the note group of teachers also play an important role on the personality than the female teachers.

Study 3 : *Interaction affect of Innovativeness and sex of the Teachers*

The interaction of the variables innovativeness and the sex of the teachers was not significant as the F-ratio is 3.70 which is not significant. Hence, it was concluded that the variables innovativeness and sex of the teachers are held to be independent in the production of the personality scores.

Conclusion :

Innovativeness of the teachers was the strongest predictor of the personality scores of the teachers as it has the highest F-ratio as compared the F-ratio of the sex effect.

There was no interaction found between the independent variables.

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"Anxiety Among Long And Short Sleepers"

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ABSTRACT :

(This investigation was concerned mainly with measuring anxiety level and its different components among long and short sllepers. The sample consistcd of undergraduate students. The main hypotheses were :

(1) Females will have a significantly higher anxiety score than males.

(2) Short sleepers will have significantly higher anxiety score than long sleepers.

The IPAT anxiety scale (Self-analysis form) and a questionnaire were used to test the proposed hypotheses. obtained results did not support the hypotheses.)

There exists a considerable body of literature on 'sleep' and 'anxiety,. However, very few studies have been done on the Indian Population by Indian Researchers. Roth et al (1976) in their study 'Mood Before And After Sleep', condueted two experiments to investigate whether any difference existed in mood before and afetr sleep. In experiment I, three males of 42 years, 25 years, and 27 years respectively, slept in a 'Sleep Laboratory' for 15 to 20 consecutive nights. Each night these Ss filled out the Hyde Mood Scale. Analyses to compare the night moods with that of morning moods were performed. The difference was reflected in its averege intensity level as well as its variablity. Not all aspects of mood showed this night to morning change equally. These findings were discussed in terms of a relationshilp between mood and sleep. A replication was attempted with 11, 20 and 25 years old males and the results agreed with that of the first experiment. Nelson et al (1977) studied anxiety and locus of conflict in normal children. They administered the locus of conflict rating scale, the trait anxiety inventory for children and Children Manifest Anxiety Scale (CMAS) to 63 (predominantly white) 7th grade students. No sex differences were noted. Correlations were smallevenwhen significant, except for 0.82 between CAMS anxiety and trait anxiety, and some validity, for the locus of conflict rating scale was indicated.

Sinha (1975) administere the revsied comprehensive test of anxiety (L.N. Sinha and K.P. Krishna 1971) to 50 males and 50 females of the 11th grade. Althoug the mean anxiety scores of the males was lower than that of the females, the differences were not significant. Hicks et al studied anxiety level of short and long sleepers. They tested the hypothesis that consistent short sleepers tend to be non worriers while consistent long sleepers tend to worry. They compared the anxiety levels of 17 short and long sleepers (college students) using a short form of the Tayler Manifest Anxiety scale. Contrary to the hypothesis, it was found that short sleepers showed significantly higher levels of anxiety than long sleepers.

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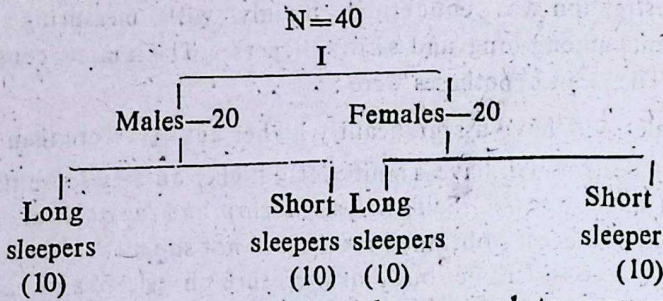
This study, in particular, made the author interested in further probing this problem which was, 'To study the effect of hours of sleep on the anxiety level of undergaduate students.'

Sample : The Sample consisted of 160 undergraduate students, of which 80 were males and 80 were females. In order to find out the long sleepers and short sleepers, a questionnaire was given. On the basis of the results obtained, 40 students were selected The distribution was as follows :—



The IPAT anxiety scale (self-administered) was used to measure anxiety and its related components. The following hypotheses were formulated :—

1. Females will have a higher anxiets score than lang sleepers.
2. Short sleepers will have a higher anxiety score than long sleepers.
3. Females and males will differ significantly in terms of the different anxiety components.
4. Long sleepers and short sleepers will differ significantly in terms of the different anxiety components.

RESULTS :

Table—1

FEMALE LONG SLEEPERS

SL No.	AGE Yrs.	HRS. OF Sleep.	Q3t	(C)	(L)	O	Q4	TOTAL ANXIETY	OVERT - COVERT RATIO.
1	17	10 Hrs	7	6	8	1	5	9	1.12
2	17	9.5 Hrs	1	4	8	4	5	3	0.72
3	17	10 Hrs	7	10	7	1	7	9	0.80
4	18	9.25 Hrs	1	4	7	4	4	3	1.04
5	17	9 Hrs	3	6	9	4	6	5	1.16
6	18	9.5 Hrs	7	8	10	6	5	7	1.43
7	18	9.25 Hrs	5	8	9	9	7	8	2.07
8	19	12 Hrs	9	10	8	9	8	9	0.74
9	17	9 Hrs	6	10	9	9	6	8	1.20
10	17	10.5 Hrs	7	8	10	6	5	7	1.60
MEAN.			5.2	7.4	8.5	6	5.8	6.8	11.88

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Table-2 Female Short Sleepers

SL No	AGE Yrs.	Hrs. of Sleep	Q3t	(C)	(L)	O	Q4	Total Anxiety	Overt - Covert Ratio
1	18	7 Hrs	7	4	8	9	7	6	2.33
2	18	7 Hrs	10	8	10	6	6	9	0.80
3	18	7 Hrs	3	7	7	5	2	4	1.09
4	18	7 Hrs	4	5	9	9	6	7	1.12
5	19	7 Hrs	3	5	6	3	2	3	1.57
6	17	7 Hrs	5	8	7	7	8	5	0.62
7	17	6 Hrs	7	7	7	6	7	7	0.89
8	19	7 Hrs	1	4	9	5	3	3	1.11
9	17	7 Hrs	10	8	10	6	3	3	1.57
10	17	7 Hrs	10	8	7	6	6	9	0.80
MEAN			6.0	6.5	8.0	6.2	5.0	5.6	11.90

Table-3 Male Long Sleepers

SL No	AGE Yrs	Hrs. of Sleep	Q3t	(C)	(L)	O	Q4	Total Anxiety	Overt - Covert Ratio
1	19	10 Hrs	4	9	9	5	7	7	0.73
2	20	8 Hrs	10	8	5	10	10	10	1.08
3	20	8 Hrs	5	8	9	6	10	10	0.64
4	20	11 Hrs	4	8	5	9	7	7	1.00
5	20	9 Hrs	5	7	7	7	5	5	1.53
6	19	9 Hrs	5	9	9	5	5	5	0.61
7	18	9 Hrs	3	6	8	6	4	4	1.60
8	18	8 Hrs	3	8	8	2	4	4	0.75
9	19	9 Hrs	3	7	7	4	3	3	1.00
10	20	9 Hrs	7	7	6	4	3	3	0.80
MEAN			4.9	7.7	7.3	5.8	5.8	6.9	9.74

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Table-4. Male Short Sleepers

SL No	AGE Yrs.	Hrs: of Sleep	Q3t	(C)	(L)	O	Q4	Total Anxiety	Overt - Covert Ratio
1	20	7 Hrs	2	6	7	7	5	8	1.00
2	19	7 Hrs	3	7	10	7	7	7	1.50
3	18	5.5 Hrs	3	7	9	5	3	6	0.70
4	19	6.5 Hrs	3	8	6	6	10	7	0.66
5	19	7 Hrs	3	8	7	5	7	7	1.12
6	19	6.5 Hrs	2	8	9	3	4	6n	2.33
7	19	7 Hrs	3	7	10	3	3	9	0.80
8	18	6.5 Hrs	3	6	7	3	3	7	0.89
9	19	6 Hrs	4	7	8	3	3	4	1.57
10	19	7 Hrs	5	6	9	3	3	4	1.11
MEAN.			3.1	6.9	8.2	4.5	5.1	6.5	11.13

Interpretation :—

Tables 1 & 2 show that almost all the sleepers among the females have sten scores below average anxiety. Only a few have an anxiety score which indicates that they are secure, phlegmatic, tough placid and relaxed persons. Both the groups are very much aware and conscious of their anxiety as is revealed by their overt-covert ratio. mean for the long sleepers overt-covert ratio is 11.88 and that of short sleepers is 11.90. Table 3 & 4 reveal that both long and short sleepers among males are highly anxious; and short sleepers are more conscious and aware of their anxiety than long sleepers, this is made exident by the overt ratio for both the groups.

As compared to males, females are much more conscious of their anxiety. This may be because our Indian culture trains them to control their anxiety and are regarded as too bold if they express it openly They are prohibited to express physiological arousal and bodily distress that may include miscellaneous physical changes and complaints. Males have been found to have a higher anxiety score than females. This may be because parents, by and large, expect more from their sons, who have to struggle more than their sisters for a proper living. This findig contradicts some of the previous studies. Sinha (1975) found

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that anxiety scores of the males were lower than that of the females, but this difference was not significant.

The mean anxiety score in the present investigation for both male and female groups was 25.80 and a sten score of 5 which shows that they lie in the average categeory. These results also reveal that our first hypothesis—"Females will have a significantly higher anxiety score than males," is not found to be correct.

Table-5. Chi-squares Between Long & Short Sleepers In Different anxiety Components

Factors	X2	P
Q3	2.48	0.10
C(—)	0.10	2.10
L	0.10	N.S.
O	2.50	0.10
Q4(—)	0.22	N.S.

Table 5 reveals the chi squares between long and short sleepers in the different anxiety components, In lack of sentiment development (Q3) (—), ego weakness (C—) and guilt pronness (O), than long and short sleepers differ at the 0.10 level of significance. This shows that the two groups do not differ very significantly but moderately. As for as suspicious paranoid type insecurity (L) and frustration tension pressure (Q4—) are concerned the chi squares are not found to be significant.

Table-6. Chi-Squares Between Male and Female Short Sleepers in Different Anxiety Components.

Factors	X^2	P
Q3(—)	5.49	0.02
C(—)	5.00	0.02
L	1.80	N.S.
O	0.26	N.S.
Q4(—)	0.26	N.S.

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According to Table—6, Q3(—) and C(—) are significant at the 0.02 level, which is highly significant. The other chi equares are not significant. This indicates that female short sleepers have a higher self sentiment sore and ego weakness scores than male short sleepers (Tables 2 & 4).

Table-7 Chi-Squares Between Male and Female Long Sleepers in Different Anxiety Components

Factors	X^2	P
Q3(—)	3.32	0.05
C(—)	0.24	N.S.
L	1.90	N.S.
O	0.80	N.S.
Q4(—)	0.18	N.S.

Table-7 reveals that the chi square for Q3 among male and female long sleepers is significant at 0.05 level. This score is higher for females (Tables 1 & 3).

Table-8 Chi Squares Between short & Long Male Sleepers In Different Anxiety Components.

Factors	X^2	P
Q3(—)	0.16	N.S.
C(—)	3.56	0.05
L	0.18	N.S.
O	0.94	N.S.
Q4(—)	0.18	N.S.

Table-8 points to the fact that among the male short sleepers and long sleepers, the only significant difference is for ego weakness (C—). This score being greater for the long sleepers (Tables 3 & 4),

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Table-9 Chi-Squares Between Short & Long Female Sleepers In Different Anxiety Components.

Factors	X^2	P
Q3(—)	0.18	N.S.
C(—)	0.94	N.S.
L	1.96	N.S.
O	0.24	N.S.
Q4(—)	0.18	N.S.

Table—9 shows the Chi squares for female long and short sleepers. All the anxiety components do differ significantly for these groups. This points to the fact that females do not differ in terms of anxiety components, irsespective of the amount of sleep they have.

The results also indicate that long sleepers for both the sexes have a higher anxiety mean than short sleepers. This disapproves the second hypothesis. It is also contrary to the finding of Hick, Robert and pelligrini.

Table-10 'r' Between Hours of Sleep & Anxiety Scores

Group	'r'
Female Long Sleepers	0.58
Male Long Sleepers	—0.40
Female Short sleepers	0.60
Male Short sleepers	0.68

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Table-10 Demonstrates an interesting trend. It indicates that moderately high positive correlations are obtained for female long and short sleepers and male short sleepers. The only negatile correlation for male long sleeper. This is the only group in which anxiety scores decrease while hours of sleep increase. This pattern is reversed for the other gropus in which the longer a person sleeps the more anxious he/she tends to be. This result, in particular needs further probing.

In a nut-shell the results are :—

1. The males have a significantly higher anxiety level than females. The hypothesis no. 1 is rejected.
2. Long sleepers have a significantly higher anxiety than short sleepers. The hypothesis no. 2 is rejected.
3. All short sleepers & female long sleepers have positive 'rs' for hours of sleep & anxiety.
4. Male long sleepers have a negative correlation between hours of sleep and anxiety.

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Occupational Differences in job Related Tension and job Involvement in Females

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In the present study an attempt has been made to study the relationship between job involvement and job related tension in female employees in teaching, medical, legal and administrative jobs. 43 degree college teachers, 25 doctors (Provincial Medical Service) 25 administrators (State Government Service) and 25 lawyers (Practising independently in High Court) constituted the sample of the study. Job Related Tension Scale by Kahnet al (1964) and Job Involvement Scale by Lodahl and Kejner (1965) were used to measure the two variables namely Job Related Tension and Job Involvement respectively. The results of the present study reveal that teachers experience least job related tension followed by doctors and lawyers and administrators women in administrative jobs are most highly involved with their job, followed by teachers, doctors and lawyers. Results also reveal that job involvement and job related tension are significantly inversely related for doctors and lawyers but not for teachers and administrators.

INTRODUCTION

The study of 'job stress' or 'job related tension' has attracted a considerable amount of attention of researchers for the reasons that it may be related to physical and mental ailments as well as to organizational performance.

A negative relationship betbeen occupational stress and job involvement for 100 first level supervisors has been reported by Singh and Misra (1984), but Hassan (1970) did not obtain any relationship betbeen the two variables for 50 executive engineers and 50 supervisors. Similarly a negative relationship was observed betbeen

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role ambiguity and job involvement (Madhu & Harigopal, 1980., Hamner & Tosi, 1970; Schuler, 1975; House & Rizzo, 1977) and between role conflict and job involvement (Tossi, 1971; Parns & Vroom, 1962) while no significant relationship between role conflict and job involvement was reported by Madhu & Harigopal, (1980). Since role overload (a source of occupational stress) is also found to be negatively related to self-esteem and job involvement is often viewed as referring to the degree of importance of work in his total self-image, the above dated findings can be easily explained. Sex differences in job-involvement, men being more involved with their job have been reported by Siegel (1959) and Robinowitz, (1975).

It is worth mentioning that inspited of increasing women work force, little attention has been given to relating personality variables with experienced stress or conflict in female employees, though multiple role stress in them has received the attention of the researchers.

Therefore, the present investigation aimed at studying the relationship between job involvement and job related in females employees in teaching, medical, legal, and administrative jobs.

It was assumed that there will be an inverse relationship between job involvement and job related tension as the job involved person feels a sense of pride in his work, considers his job to be more important and potentially more satisfying to him, internalizes the goals of his organisation and is ready to take any pains for its achievement (Singh & Misra, 1984). Further, the job-related tension-job involvement relationship will significantly vary for different occupational groups as the job will not be equally central to the self esteem of women going in different occupations and the job conditions (stressors) will also vary for them.

It may also be assumed that significant differences in job related tension and job involvement will be observed among different occupational groups due to differnces in occupational prestige and sex-typing of the occupations.

METHOD

Sample : The sample of the present study included 43 degree college teachers, 25 doctors (from Provincial Medical Service), 25 administrators (from State Government Service) and 25 lawyers (practicing independently in High Court). As the sample was incidentally selected background variables, such as age, tenure and income could not be controlled. The mean age of the total sample was 30, 42, mean tenure was 6.12 years and mean monthly income was Rs. 1970. 20. Most of these females had mothers who were in had held jobs.

Tools :

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1. *Job related tension* : by Kahn, Woffe Guinn Snock and Rosenthal (1964). It

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is a 15-item 5-point rating scale ranging from never experiencing job tension to experiencing it all the time. The items are scored from 1 to 5 summed across all the items. High scores indicate high job related tension. The scale was used for national survey.

2. *Job involvement Scale* : by Lodahl & Kejner (1965). It is a six-item scale with four response alternatives for each item scored 1 to 4. Low scores indicated high job involvement. The scale has test-retest reliability coefficient ranging between. 72 to 89 (Lodahl & Kejner, 1965).

Table-I showing means and standard deviations for job related tension and job involvement among different occupational groups.

Sample	N	Job Related Tension Mean	SD	Job Involvement Mean	SD
Teachers	43	33.66	8.40	12.42	2.43
Doctors	25	38.00	8.70	12.60	3.25
Administrators	25	41.10	4.93	12.20	1.61
Lawyers	25	40.63	10.18	14.8	2.85

Table-II showing significance of difference in the means on JRI and JS for different occupational groups.

Groups	JRI CR	Remark.	Groups	JS CR	Remarks
D-T	1.87	NS	D-T	0.51	NS
D-A	1.58	NS	D-A	0.55	NS
D-L	1.00	NS	D-L	1,72	NS
T-A	4.61	S (.01)	T-A	0.49	NS
T-L	2.89	S (.01)	T-L	2.44	S (.02)
A-L	0.19	NS	A-L	2.89	S (.01)

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Table III showing the relationship between job related tension and job invovement.

Sample	N	r	Groups compared	t
Teachers	43	.12	Doctors-Teachers	2.34*
Doctors	25	.619**	Doctors-Administrators	1.6
Administrators	25	.27	Doctors-Lawyers	0.6
Lawyers	25	.51**	Teachers-Administrator	0.61
			Teachers-Lawyers	1.69
			Administrators-Lawyers	1.0

**Significant at 01 level

*Significant at .05 level

Note :—These r's are indicative of inverse relationship between the variables as low scores on job involvement scale show high job involvement.

Table I reveals that among the various occupational groups studied teachers experience least job related tension, next in rank order are doctors, followed by lawyers, and largest amount of tension is experienced by administrators. It is, however, noteworthy that the only significant differences are revealed between teachers and administrators and teachers and lawyers. It, thus seems that in comparison to teaching and medical profession, legal profession and administrative service are more experienced stress by them (see Table II). Further, Table I shows that women in administrative jobs are most highly involved with their job, followed by teachers and doctors, while the lawyers are least job involved. However, the only significant differences are obtained between teachers and lawyers, and between administrators and lawyers (see Table II). Thus, teachers doctors and administrators seem to be equally involved with their jobs. In other words in comparison to legal profession, occupations like medicine, teaching and administration contribute equally to sense of pride in women now-a-days.

The high job involvement of women in administrative jobs may partially be explained in terms of early socialization in a sex-role (Siegel, 1970) suggesting a masculine or androgynous orientation in them. The entrance to the administrative services which are considered to be predominantly male occupation presents challenge and gives rise to

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the sense of pride derived from work for these females. But at the sams time, the prevalent job conditions give rise to much job related tension also.

From Table III it is also evident that job involvement and job related tension are signficantly inversely related for doctors and lawyers but not for teachers and administrators. It thus seems that for women in teaching and administrative services the heightened sense of pride and worthiness derived from their work activities does not tend to lesson the stress and strains of the work and vice-versa. Taking female nurses from Government Hospital, Madras, Anantharaman and Kaliappan (1982) also observed a negative relationship between job involvement and trait anxiety (a personality factor) and state (situational) anxiety suggesting that with increased anxiety a person becomes too cautious to become involved in any activity or work, If 'anxiety' may be defined as predisposition to emotional tension (Srivastava, 1982) obtained inverse relationship between job-involvement and job related tension is explainable.

The non-significant relationship between job related tension and job involvement in female administrators may partially be explainable in terms of their sex-role orientation (through not investigated in the present study). Srivastava's (1982) data obtained from male supervisors and workers shows consistently increasing job anxiety scores with increasing level of job involvement.

The non-significant relationship between job-involvement and job related tension for teachers and administrators thus calls for verification by studying anxiety and tension more intensively.

Age, tenure and personality variables like ego strength and locus of control have been found as related to job-involvement. More definite conclusions may be drawn regarding job-involvement job related tension relationship after partialling out these variables or seeing the interactive effect of each of these variables which job involvement on job-related tension.

Marital status may also be an important variable associated with job related tension and job involvement of female employees, but due to scarcity of data, it could not be verified in the present case.

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Information Processing Among Tribal and Non-Tribal children-Successive Processing Habits

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The present study examined the successive processing modes of tribal and non-tribal children as a function of age. A battery of tests measuring successive processing habits were given to 150 boys from classes 1 and 5. Analysis of results showed that tribal and low Socio-Economic Status (SES) non-tribal children were more handicapped in successive processing tasks when compared to high SES non-tribal children at both age levels or classes. Tribal and low SES non-tribal differences on all successive processing measures were found non-significant.

INTRODUCTION

The information processing model of cognition is a new attempt to explain many complex human behaviours such as learning, problem solving and concept attainment. Factor analytic studies have shown that simultaneous and successive integration appear to be viable individual difference variables (Das, Kirby and Jerman, 1979; Hunt and Randhawa, 1980). It follows, therefore, that disparities in cognitive behaviour may be result of differing information processing modes, that is two types of syntheis, simultaneous and successive, can be viewed as components in the processing of information and thus their appropriate use in task performance could be a determinant, in part, of individual achievement.

It has been shown that differing levels of achievement are produced by different use of simultaneous and successive processing (Kirby and Das, 1978; Hunt, Fitzgerald and Randhawa, 1976; Hunt and Randhawa, 1980). This implies that appropriate use of process strategies could result in greater achievement. A process interpretation of intellect also

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suggests that cognitive strategies may have been learned and, therefore, may be amenable to change. In their studies both Kaufman (1978) and Krywaniuk (1974) suggest that successive processing strategies are amenable to instruction. If training in process strategies, therefore, does result in higher achievement, there are definite implications for education in the area of curriculum development, class-room grouping, and instructional methods. Therefore, it becomes essential to undertake intensive studies to identify the processing modes of children varying in age and social back-ground, so that appropriate intervention strategies could be adopted for better learning and classroom achievement. Das (1984) has already identified the simultaneous processing modes of tribal and non-tribal children at two age levels. The present study is in a sequence to investigate successive processing modes of tribal and non-tribal children.

Hypotheses

1. There will be significant differences among children varying in age for each of the measures of successive processing.
2. There will be significant differences among tribal and non-tribal children for each of the measures of successive processing.
3. There will be significant interactive relationship between age and social groups with regard to successive processing tasks.

Subjects

The present study involved one hundred and fifty boys of classes 1 and 5 of Puri and Keonjhar Districts of Orissa. Subjects for each class were classified into tribal and non-tribal (high SES and low SES) groups. Each sub-cultural group under each age span consisted of 25 boys giving rise to 75 under 7 and 75 above 10 years.

Tests

The following successive processing tasks were selected for the present study.

Visual Short-Term Memory (VSTM)-This visual task consists of 20 separate presentation of five single-digit grids (devised by Howrath and Browne, 1978). Each grid is presented for five seconds, and then the child is required to remember the digits and fill the digits in the appropriate rooms of the empty gird. Each digit correctly placed is scored as one mark.

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Memory-For-Designs (MFD)-This was developed by Graham and Kendall (1946) as a test of perceptual motor co-ordination that depends on immediate memory. It consists of 15 simple straight line designs and each design is printed on 5"×5" cards. Each design is shown for 5 seconds by holding the card at right angles to the child's line of vision and 18 inches from his eyes. Then the child is asked to draw the design from memory. The drawings are assigned a score form 0 to 3 points according to the degree of correct reproduction. Disit Span Test-This test is a sub- test of Wechslers Adult Intelligence Scale (WAIS, 1955). It consists of different series digits (starting from three in case of Digit Span Forward (DSF) and two in case of Digit Span Backword (DSB) of increasing length, two of each length. After each series is presented the subject is required to recall the items in the order given. The total score is the series recalled correctly.

RESULT AND DISCUSSION

The Means and Standard deviations for all tasks are given in Table-1 for tribal and non-tribal groups of classes 1 and 5. All common variables for the two classes (Age) and three Social groups were analysed by 2 (Age) ×3 (Social groups) factorial analysis of variance the result of which is presented in Table-2.

Table-1. Means and Standard deviations of successive processing test scores for classes 1 and 5 tribal and non-tribal children.

Tests	Class	Tribal		Non-tribal			
		M	SD	Low SES M	Low SES SD	High SES M	High SES SD
VSTM (Correct grids)	1	1 96	3.10	2.20	3.35	8.32	5.86
	5	12.80	4.32	13.44	3.97	16.04	3.78
VSTM (Correct entries)	1	44.36	19.43	53.32	11.71	74.48	14.47
	5	83.84	10.23	85.84	13.06	91.76	9.75
MFD	1	19.52	7.87	12.64	6.00	5.96	4.69
	5	7.00	3.65	8.36	3.84	1.28	1.14

Contd.....

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DSF	1	4.00	0.96	4.32	0.80	5.44	1.00
	5	5.12	0.73	5.48	1.12	6,20	0.87
DSB	1	2.16	0.37	2.28	0.68	3.44	0.51
	5	2.72	0.68	3.24	0.60	4.36	0.70

Table-2. Summary of Two-Way Analysis of Variance for classes 1 and 5 (Age) and tribal and non-tribal children (Social groups)

	F. Ratio		
Variable	Age	Social groups	Age × Social groups
VSTM (correct grids)	213,961**	20.477**	2.613+
VSTM (correct entries)	182.204**	26.215**	8.833**
MFD	77.269**	49.531**	10.845**
DSF	45.294**	24.988**	0.705+
DSB	68.250**	80.250**	2.050+

* $P = \leqslant 0.05$; ** $P = < 0.01$; + = Not significant

The analysis clearly revelals that, on all successive processing tasks class 5 children performed better than class 1 children. Further, performance of tribal children as well as non-tribal low SES children is inferior to non-tribal high SES children.

The mean scores of VSTM indicate that, younger children recalled less number of correct grids and entries as compared to older children irrespective of social groups. But the performance of low SES non-tribal and tribal children are very poor as compared to

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their non-tribal high SES counter-parts. The analysis of variance of VSTM (both for grids and entries) indicates that main effect for age and Social groups are significant at .01 level establishing the fact that variation in performance is proportional to age and degree of socio-cultural deprivation. In order to interpret the intergroup differences t-ratios were computed which confirmed that there is significant differences between the mean performance scores of high SES non-tribal and low SES nontribal, high SES non-tribal and tribal children. But between the tribal and low SES non-tribal children the mean scores did not differ significantly.

It was further found that, interaction effect between Age and Social groups is not significant for VSTM (Grids). These observations are similar with the findings of Molly (1981).

For the Memory-for-Designs task main effect for Age, Social groups and Age x Social groups interaction are significant. At class 1, the high SES non-tribal group made fewer errors in performing the task requirements and is clearly superior to the low SES non-tribal and tribal groups. The significant ineraction reflects a 'smoothing effect' in performance between class 1 and 5. At class 5, tribal and non-tribal low SES difference is no longer apparent. In fact, the difference slightly favours the tribal group.

MFD and VSTM test scores were significantly correlated for both age levels, indicating that these tasks simple analogous processing modes. The present data indicate that the difference between the performance of high, low SES non-tribal and tribal groups on MFD & VSTM decreases with age. On the way of accounting for this increasing congruence is in terms of the 'levelling effect' of uniform classroom instruction. Schmidt (1966) provides supportive evidence for the contention that, schooling has a levelling effect on cognitive task performance.

At both class 1 and class 5 the mean performance of DSF and DSB of high SES non-tribal group is superior to that of low SES non-tribal and tribal groups. The analysis of variance of DSF and DSB indicates that main effect for Age and Social group are significant. The trend of this result is consistent with the findings of Das (1984) Molloy (1981) and Subudhi (1987).

The results of the present study reveal that, class 5 children are better successive scanners than class 1 children. Successive processing modes of tribal children and non-tribal children are similar to each other although both these groups are significantly different from high SES non tribal children. This data are not consistent with Jensen's

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(1969) hypotheses. His model would predict that SES differences will be greater on Level II-type (reasoning) tasks, whereas Level-I (memory) performance differences will be non-existent or insignificant. The results appear to be noncogruent with regard to Level-I performance as the tests used in this investigation are mostly memory based.

A plausible explanation can be given to interprete the findings. This differences are due to ontogenetic trends and culture specific behaviours of different social groups. It is a fact that tribal and low SES non-tribal children have different cultural background. But from environmental point of view, tribal and low SES non tribal children are exposed to similar type of educative environment as a result, their performance are similar to each other. These two groups in our social life stand out as distinct but similar as against high SES group. Hence, it may be the possible reason for which tribal and low SES non-tribal children adopt similar processing modes on successive processing tasks.

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Classroom Verbal Behaviour Patterns of Over and Under Achieving Groups of Chemistry Classes.

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INTRODUCTION

Teacher Effectiveness Criteria have been categorized on the basis of the methodology used in obtaining the criteria measurements. Erownell (1948), while differentiating process learning from product learning, classified teacher effectiveness criteria into Presage, and Product. Presage criteria consist of those forces which are present in the teacher and the pupil in the form of individual characteristics. Process criteria consist of those aspects of teacher and pupil behaviours which are considered having mediating effect on the product criteria. They are often described and measured in the classroom in terms of conditions, climates and interaction between teacher and students. Variety of schemes have been put forward to measure the classroom characteristics. A few of them are such as with all's (1949) Student centered-Teacher Centered Continuum, Flanagan's (1954) Critical Incident Technique, Flanders' (1960) Interaction Analysis Category System (FIACS): Product criteria depend for their deffnitions on the goals set for teaching. They are intent changes in the behaviour of the students. They are measured as Achievement, Attitude, Aptitude, Interest etc.

With this back ground, it was felt that a search be conducted on the difference between the classroom behaviour patterns of over Achieving (O—A) and under Achieving (U—A) Chemistry classes. Hence, the present study was envisaged.

METHODOLOGY

The Sample : 50 Chemistry teachers of the geo-cultural region Hadauti of Rajasthan were included in the sample. They are teachers of 32 Secondary and Higher Secondary schools spread over the area of three districts viz. Bundi, Jhalawar and Kota. One section for each teacher was selected at random for the study.

Tools : FIACS observation Table and Standarized Achievement Test in Chemistry constructed by the researcher were used.

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Statistical Techniques : Flow chart and 't'-test were used.

Procedure :—In the beginning of the session Test in Chemistry was administered among the classes selected for this study. Each teacher was observed thrice during the session for recording the verbal interaction events. Each session was of 20 minutes. Events were recorded for every 3 seconds. Each cell frequency was them averaged for each teacher. At the end of the session afore said achievement test was again administered on the same students as a were treated so in the beginning of the session.

Class Achievement for each teacher was found by subtracting the Class average pre-test score from that of post test score. Then, these 50 classes arranged in the descending order of their achievement. Top and bottom 25% each i.e, 13 classes were then separated for further analysis.

The top 13 classes are termed as over-Achieving (O—A) group and bottom 13 classes as under-Achieving (U—A) group.

Interaction matrices for these two O—A and U—A groups were prepared and subjected to statistical analysis.

ANALYSIS AND INTERPRETATION

Flow Charts :—The flow charts were prepared for the interaction matrices ot the two groups O—A and U—A classes. From them it was found that the first cycle of the classroom verbal transactions of O—A group includes it's 79.4%. This figure for U—A group is 64.8%. It's second cycle could accomodate only 76.9% of the total classroom verbal transactions. First Cycle of the flow chart of the former group included nine cell frequencies. This figure for the latter group is 3. It could include only additional 4 cell frequencies in the second cycle, making the total to 7 cell frequencies. It is, thus, evident from these facts that the O—A group flow chart includes all the three categories of the Classroom verbal iuteraction viz. TT PT. and S/C. Where as, in case of U—A gronp the first cycle left out S/C category al together. In second cycle it could not include 4-4 and 8-8 cell frequencies. It can, thus, be inferred that O—A group verbal interaetion pattern is more ineegrated than U—A group.

Matrix Category-means :—Various category means of the O—A and U—A group matrices were compared with the help of 't'-test. It's results are given in the following table I.

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Table-1 : Comparison of the Interaction Matrix Category Means of O—A and U—A groups of Classes (N=13 for both).

Category	Mean		S.D.		S.E.	*t*
	O—A	U—A	O—A	U—A		
2. Praise	2.15	2.69	2.61	3.90	1.30	0.415
3. Accept Ideas	5.38	1.00	8.85	1.47	2.49	1.759
4. Ask Question	50.77	37.31	21.93	23.25	8.88	1.516
5. Lecture	185.23	243.92	28.62	59.37	18.28	3.211Hy
6. Direct	6.77	7.69	5.10	8.00	2.63	0.350
7. Criticise	1.38	1.92	3.48	6.93	2.15	0.251
8. Pupil-Response	53.85	40.69	26.56	24.70	10.06	1.308
9. Pupil-Initiation	7.85	12.69	5.33	9.07	2.92	1.658
10. Silence ambusion	86.62	52.08	43.43	43.88	17.12	2.018

* Sign. at 05% level Hy sign. at ·01% level

These results show that two matrices significantly differ in case of Category 5- Lecture-frequencies. This Category frequency is higher in favour of U—A group of classes. It is, therefore, concluded that the c'assroom verbal interaction pattern of U—A group of classes is dominated by the teacher lectures.

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Homogeneity of the MATRICES : Homogeneity of the distribution of cell-frequencies in the two matrices under consideration has been tested with the help of Chi-square test. This homogeneity was studied in the context of the composite Malrix cell-frequencies of the whole group of fifty classes The results of the Chi-square test are given in the following Table-2.

Table-2 : Homogeneity of the Distribution of the cell-frequencies in the Interation Matrices of O-A and U-A groups of classes.

Group	(o-e) L	a^2+v^2	No. of cells in the Matrix N	No. of sub Matrices N	df (N—1) ×(N—1)	Chi-square	Level significance.
O-A	200.350	650.58	38	2	37	650.58	.001
U-A	450.230		38				

This result significance at .001% level of significance for 37 df. Hence the hypothesis that the two interaction matrices belonging to the O-A and U-A groups of classes to not differ in respect of their cell-frequency distributions, in the context of the composite Matrix of the whole group cannot be accepted.

This result reveals that the interaction matrices of the O-A and U-A classes differ from each other inspite of their corresponding category means being almost similar. Different internal structures of the two matrices in terms of their cell-frequency distributions may be responsible for this.

Means af the Interaction Index Ratios : ft is obvious from the results of Table 3 that the means of T T, DTT, PIR, and Restrictiveness are significantly higher in favour of the U-A group of classes. Indirect to Direct Ratio (I/D) and SC means of the O-A group of classes are significantly greater than the respective means of the U-A group of classes. Mean of the TOR ratio for the former group is higher than that of the latter group to an appreciable extent.

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Table-3 : Comparison of the Means of Interaction Index Ratios of the O-A and U-A groups of classes (N=13) both.

Interaction Index Ratio	Mean		S.D.		S.E.	*t*
	O-A	U-A	O-A	U-A		
T T	62.92	73.56	8.32	11.37	3.91	2.72+
P T	15.42	12.88	6.85	6.68	2.65	0.96
T/S	65.62	84.42	5.04	6.49	1.70	0.85
S C	21.55	13.02	9.55	10.97	4.03	2.11+
I T T	14.48	10.25	6.35	6.33	2.49	1.70
D T T	44.88	59.79	12.51	18.00	6.08	2.45+
I/D	30.68	18.47	15.54	14.52	5.90	2.07+
i/d	34.65	56.11	38.67	49.91	17.51	1.23
P I R	15.21	33.95	10.08	26.07	7.75	2.42+
T R R	37.98	36.69	27.44	40.73	13.62	0.09
T Q R	23.61	16.05	9.36	11.12	4.03	1.87
C C R	54.38	70.35	12.94	11.54	4.90	3.26++
i/i+d	36.44	30.16	27.12	24.24	10.09	6.62
Restrictivess	1.99	2.40	0.98	1.42	0.19	2.63+
V C	0.35	0.60	0.55	1.30	0.39	0.65
P S S R	28.19	18.57	16.25	12.55	5.69	1.69
T R R (89)	52.13	45.68	37.84	39.01	15.07	0.43
T Q R (89)	41.47	32.21	17.13	21.73	7.68	1.21

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SSR	59.98	64.86	8.13	13.43	4.35	1.12
Sustained Acceptance	15.28	4.49	22.35	11.08	6.92	1.56
QR	12.69	10.10	5.48	5.55	2.16	1.16
Restrictive Feedback	36.55	24.80	29.95	27.96	11.36	1.03
Praise	0.54	0.87	0.65	1.07	0.35	0.94

* Signi. at .05% leval ; ++ Signi at .01% level.

Classroom interaction of the classes, belonging to the group of U-A is characterized by the higher values of II Rs, viz. TT, DTT, PIR and Restrictiveness in comparison to the O-A group of classes. Values of SC and I/D, are higher for the O-A group of classes than those for the U-A group of classes. Similar is the case with TQR, In fact, DT and ITT. I/D ratios are much less, in case of U-A group. Greater value of ID contributes to the higher achisevement. This ratio can be increased by increasing ITT and decreasing DTT. Greater the gap between ITT and DTT in favour of the former, higher would be the vrlue of I/D. In the present analysis DTT is higer in favour of the U-A group and I/D is higher in favour of the O-A group. Results pertaining to these two ration conclude that TT should have such form in terms of ITT and DTT as would optimise the gain in achievement.

Total classroom transactions are covered by TT, PT and SC ratios. TT ratio is higher in favour of the U-A group. PT ratio is almost same in the two groups. Remaining SC ratio is higer in favour of the O-A group. These results are in quite conformity with each other. It is worth noticing that in O-A classes SC is meaningful. and contributed to the gain the achievement. This part of the total classroom verbal interaction was curtailed by the increased value of the TT ratio in U-A group of classes. This resulted in low gain in achievement. PIR is, infact, the offspring of the PT. The PIR ratio is higer in favour of the U-A group. This shows that the other part of the PT-the Pupil Response is less for this group of classes. It has alreody been established that TT is greater for this group. In this particular situation, where both Pupil Initiation and TT are high, the gain in achievement is low. It is enough to conclude that in this group of classes, pupils in one hand and teachers on the other beat their own drums. Flow of communication between them is very weak.

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Foregoing phenomena is also related to CCR. This ratio again is higher in favour of ihe U-A group.

CONSTIPATION

Results of the comparison of the two flow charts corresponding to the verbal classroom interaction bahaviour of O-A aud U-A groups of classes reveal that the one belonging to the former group is more integrated than that of the latters.

Classroom behaviour pattern of U-A group of classes is significantly dominated by the lecture.

Cell frequencies of the verbal classroom interaction matrices of over-Achieving and Under-Achieving groups of classes can not be said to be homogeneously distributed.

Interaction Index Ratios such as SC, I/D, are greater for over-Achieving group of classes.

Interaction Index Ratios viz TT, DTT, CCR, Restrictiveness are greater for under-Achieving group of classes.

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A Study of Scholastic Achievement in Relation to Childrens Report of Parental Behaviour

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Tre present study was an attempt to findout the relatianship between perceived parental behaviour dimensions and scholastic achievement of the students The sample consisted of 50 studcnts of Girls Higher Secondary School of Indore. Children's Report of Parental Behaviour Inventory by Saxena and Sexana (1977) was administered to collect data. Mean achievement score of previous three years annual examination was used for Achievement scores. Product moment correlation was calculated to analyse results. The results show ihat—(1) Achievement of the students was better where factars of acceptance dimensions and Psychological autamony perceived in the parental behaviour, (2) The achievement was found poor where the perceived parental behaviour were Factor of rejection dimensions and Psychological control.

INTRODUCTION

The family is the first primary group characterised by direct human relationships where, with a very small minority of exception, every child lives for a considerable period of time. The family exercises most formative influences upon the child's later developments. These influences are the result of direct human relationships within the family-with their parents in particular. The parent child relationship which reflects in the child rearing practices & child rearing attitudes, determine the various aspects of the child's development. (Schaefer & Bell, 1958; Schaefer, 1959; Baldwin, Kalhorn & Brees, 1949). Besides the importance of child rearing practice & child rearing attitudes, childs perception of his parental behaviour also plays an equally important role. Schalderman (1969) was of the opinion that how a child perceived the behaviour of his parents towards him is very important. Ausübel & associates (1954) had expressed this as "——although parents

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behaviour is an objective events in the real world, it effects the child's ego development only to the the extend and in the form in which he perceives it. Henceived parental behaviour is in reality a more direct relevant & proximate determinant of various development than the actual stimulus context to which it refers.

Results of previous studies reveals that parent child relation-ship contributes to the variation of achievement among students. It was found that lack of parental help (Joshi & Sharma, 1976) & indifference of parents towards the child (Kamat & Desmuk, 1953, Gadgil & Dandekar; 1965; Chitlkar, 1961) effect the achievement of students. The results of other studies show that parent of higher achiever have been found to give their children more praise & approval,(Richard, 1954, Marrow & Wilson, 1961). to show more interest & understanding (Tibbets, 1955), to be more closer to their children (Kimbell, 1955), more affectionate, & encouraging & less restrictive (Marrow & Wilson, 1961). Where as the parents of under-achiever has been found to be more dominating (Jones, 1955; Kimbal, 1955), over restrictive (Richard, 1954), use more severe & frequent punishment (Concilin, 1940; Kimble, 1985) & besides this they are found to be less affectionate & rejective (Symods, 1939). The present problem of the study the effect of perceived parental Behaviour open the scholastic achievements of the students.

OBJECTIVES

The objectives of the present study are ;

To study the effect of perceived parental behavioural diemens: (1) Acceptance, (2) Rejections, (3) Psychological autonomy & (4) Psychological control upon the scholastic achievement of the students.

METHOD & PROCEDURE

(a) *Sample* : The study was conducted upon 50 students of X class of Girls Higher Secondary School of Indore city.

(b) *Tools* : To measbre parental Behaviour "Children's Report of Parental Behaviour Inventory' by Sexena & Sexena (1977) was used. The mean scholastic achievement score is calculated on the basis of previous three years annual examination results of the students & this is considered as true achievement score of the students.

ADMINISTRATION

The 'Children Report of Parental Behaviour Inventory' was administered to the student & asked to give responses keeping inview of their Parental Behaviour Scorng was done according the manual. To analyse data productmoment correcation is applied.

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RESULTS & DISCUSSION

The results of the study is given below :—

The Table-1 gives the results of Factors of perceived Parental Behaviour of Acceptance Demonsions & Achievement.

Table 1. Acceptance Diemeasion & Achievement

Factors	*r*	Level of Significance X
1. Acceptance & Achievement	.33	.05
2. Child Centredness & Achievement	.37	.01
3. Positive involvement & Achievement	.53	.01
4. Acceptance of individuality & Achievement	.33	.05

Note : X according to table Guilford.

The results given in the above table-1 x reveals significant positive relationship between all the factors acceptance diemens of perceived parental behav-iour & achievement of the students, Among all the four factors of acceptance diecmson positve involvement & achievement is found highly significant at ·01 level than the other three factors. Child centredness comes next whereas acceptance & acceptance of individuality are found of equal effect. This show that perceive perental behaviour, where there are love, affection, care, attention praise, affection, closeness, helpfulness & cooperation improves the achievement.

Such types of parental behaviour provides security feeling amoing the childrens as their individuality was careed & more attention was given to then which in return relieve children from fustration, tension & other problems. Relief from tension & other problem helps in the concentration power of students which help in increasing achievement scores of the students.

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The table-2 shows the result of factor of the rejected perceived Parental behaviour and achievement.

Table-2 Rejection Diemension & Achievement
N=50

Factors	*r*	Level of signi ficance.
1. Rejection & Achievement	.21	NS
2. Instilling persistent anxiety & Achievement	.11	NS
3. Hostile Detachment & Achievement	.16	NS
4. withdrawal of Relationship & Achievement	.21	NS

The above all the four correlations between the factors of rejection diemensions of perceved parental behaviour & achievement were found insignificant. It indicate that the students who recalled their parents rejecting them, where there is lack of love, less attention & understanding among them, leads to poor in achievement. The detached & with drawal of relationship of their parents, creates feeling of lack of love, dislike lack of understanding & distance between them. This creates anxiety over the loss of parental alove & rejecting behaviour reduces the motivation of the students & develop negative ttitude towa rds himself which in return affect the educational per ormance.

The results of factors psychological autonomy & achievement is given in Table-3.

Table 3. Factors & Psychological Autonomy & Achievement
N=50

Factors	r	Level of signi fficance
Inconsistent discipline & Achievement	.38	.01
Lack of discipline & Achievement	.60	.01
Non-enforcement & Achievement	.33	.05
Extreme autonomy & Achievement	.20	NS

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The three factors inconsistent discipline, non-enforcement & lack of discipline shows significant correlation with achievement Lack of discipline & achievement & inconsistent discipline are found & be highly significant at .01 level of significance. Hence it appears that democratic freedom & non-enforceing discipline by the parents creat among students self-imposed discipline & increased self-initiative activities which encourages his educa tional progress.

The relationship between extreme autonomy & achievement is insignificant. Is may be due to the perception of the students, who consider themselves as free lancer or rejected by the parents. As in Indian cultural conditions of child realing practices. in no community, girls are given complete freedom to do wha-t they like & go out any time without the permission of parents. Such type of parental discipline is not commonly found & may have treated as negiligence & Lowered the achievement scores of the students.

The result of factors of psychological control & scholastic achievement is given inthe Table-4.

Table 4 : Factors of Psychological Control & Achievemenet

Factors	r	Level of significance
1. Control & Achievements	·11	NS
2. Enforcement & Achievement	.22	NS
3. Control through guilt & Achievement	·05	NS
4. Hostile control & Achievement	·09	NS
5. Instrusiveness & Achievement	·21	NS

The results shows that non of the above & is found significant. This shows that factors of psychological control are not condusive for harmonious growth on the other hand all the above five factor of psychological control are injurious to florishing abilities of children. The control, rigidity, harshness & hostility leads/suppression & inhibition. Individuality & intiative is crushed in such conditions leading to poor performance of the stud-ents.

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CONCLUSIONS

1. Achievements of the students are better where factors of acceptance diemensions of parental behaviour were perceived by the students.
2. Factors of perceived rejected parental behaviour diemension reduces scholastic achievement.
3. Achievement is better where there is-inconsist discipline, non-enforcement & lack of discipline all the three factors of psychological autonomy. Another factors of this extreme autonomy found insignificant.
4. Psychological control diemens of perceived parental behaviour reduces the achievement of the students.

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Astudy on relationship between the personal characteristics of trained and untrained Farmers with their knowledge level

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INTRODUCTION

Rapid development in the field of Agricultural technology calles, for implanting the new technology in the minds of farmers. This is possible by increasing the knowledge about the technology. But, learners vary in their level of understanding information and using information due to influence of their personal characters such as age, education socio-economic status, and extension participation. Hence it is necessary to know the extent of influence of various personal characters on the knowledge level of farmers to suitably motivate them.

Keeping this point in view, study was conducted to explore the relationship between the personal charactristics such as Education level, extension participation, management orientation of trained and untrained farmers with their knowledge level about the recommended practices of soil and water management and hybrid maiza cultivation practices.

REVIEW OF LITERATURE

Gangadharappa (1979) in his study on farmers training indicated that there was significant association between personal characters of farmers such as education, management orientation, extension participation, social participation and gain in knowledge and a result of training.

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METHODOLOGY

The study was conducted in 8 villages spread over 4 talukas of Bijapur and Belgaum district of Chataprabha command area of Karnataka State. The sample con sisted of 88 traired farmers who had grown hybrid maize and another 88 matched farmers who were not trained at the farmers training center. The data was collected with the help of a schedule by personal interview methpd. The knowledge level of respondents was measured with reference to the recommended cultivation practices of maize under irrigation as well as soil to water management teachnology knowledge level was masured by knowledge index as suggested by Anastasi (1961). The educational level and extent Participation in extension activities were quantified as per pracedure followed by Gangadharappa (1979). To know the respendents management orientation the scale developed by Samant (1977) was used .The data were subjected to'F' and 'U' tests for analysis and interpretation.

RESULTS AND DISCUSTION :

It could be seen from the table (I) that the frequency of the respondents was maximum in high educational groups among both trained and untrained farmers. The knowledge level of these groups was noticed to be in the high mean knowledge score range than the low educational groups of trained and untrained farmers. Mean knowldge score were statistically different among the educational cetegories of trained farmers, but not in case of untrained farmers. A possible explnation for this tendency might be tha complexity of the technology demonstrated in the training session might have become difficult to understand and recall by low educated respendents. Further training provides contrived experiences which makes farmers to know little more irrspective of thier educational level.

From Table(II) it could be noticed that both trained and untrained farmers with high degree of extension praticipation had high knowledge score.The possible reason might be the repeated interaction of the trained and untrained farmers with the change agents.Trained farmers had closer contact with extension agency after the training.

Table (III)reveals that irrespective of the degree of management orientation trained farmers were ovserved to have higher mean knowledge score, a tendency in contrast to untrained farmers. The possible reason might be the past experiences of a farmer develops in him a capacity to be agood farm manager.

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Table-1 : Association between the levels of education of trained and untrained farmers and their mean knowledge score in relation to recommended practices of hybrid maize and soil and water management.

Sl. No.	Farmers Categories	Education category	Frequency	Mean knowledge score	N=176. Remarks
1.	Trained	Low	26	72.05	E=3.526**
		High	62	79.63	U=3.143**
2.	Untrained	Low	39	50.68	E=1.227NS
		High	49	59.09	U=0.075NS
3.	Trained	low	26	72.05	F=1.20 NS
	Untrained	Low	39	50.68	U=3.20 **
4.	Trained	High	62	69.63	F=3.29 **
	Untrained	High	49	59.09	U=4.20 **

** Significant at 1% level NS=Not signiffcant.

Table-2 : I Association between the levels of extension participation of trained and untrained farmers and their mean knowledge score in relation to recommended practices of hybrid maize and soil and water management.

Sl. No.	Farmers categories	Extension participation categories.	Erequency	Mean knowledge score.	N=176. Remarks
1.	Trained	Low	49	74.42	E=3.05 7*
		High	39	79.14	U=3.21 **
2.	Untrained	Low	43	49.77	F=1.43 NS
		High	45	63.23	&=2.56 **

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3.	Trained	Low	49	74.42	F=1.69 *
	Untrained	Low	43	49.77	U=3.30 **
4.	Trained	High	39	79.14	F=2.90 **
	Untrained	High	45	63.63	U=1.50 NS

*=significant at 5% level **=Signficant at 1% level

NS=Not significant.

Table-3 : Association between the levels of management orientation of trained and untrained farmers and their mean knowledge score in relation to recommended practices of oybrid maze and soil and water management.

N=176.

Sl. No.	Farmers categories.	Management orientation	Frequency	Mean Knowledge	Remarks.
1.	Trained	Low	22	75.23	E=1.88 *
		High	66	98.86	U=2.52 **
2.	Untrained	Low	19	44.95	F=1.84 **
		High	69	68.64	U=2.51 **
3.	Trained	Low	22	75.23	F=1.80 *
	Untrained	low	19	44.95	U=5.20 **
4.	Trained	High	66	98,86	F=3.60 **
	Untrained	High	69	68.64	U=2.10 **

*=Significant at 5% level **=Significant at 1% level

NS=Non significant.

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Academic Achievement as a function of Mental Ability and Anxiety

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The present study was aimed at investigating the effects of mental ability and anxiety on academic achievent of school students (Ages 13-15). The Hindi version of Jalota's Group test of General Mental Ability and Sinha and Sinha's Comprehensive Anxiety Test were administered on a sample of 200 school students to measure their mental ability and anxiety. 25 percent upper achievers and 25 percent lower achievers were selected on the basis of examination marks and compared on mental ability and anxiety. The results revealed that mental ability and anxiety were positively related to academic achievement and the relationships were significant.

INTRODUCTION

Academic achievement plays significant role in shaping the career of the individual and planning for future education. Therefore, the researchers have been attempting since long to investigate the various factors determinining academic achievement. It can be pointed out in brief that the term academic achievement refers to" the quantity and quality of learning in a subjects or a group of subjects as assessed by examination mark". (Pandey, R. P. 1973).

Early researchers generally assumed that mental abiliy was the most effective predictor of academic achievement. Wolking (1955), shinn (1956), Wellman (1957) & Edwards and Taylor (1965) found a relationship between measures of I. Q and school achivement as quoted by Barton, Dielman and Cattell (1972). Rastogi K. G (1974) and Kundu Ramanath (1975) revealed significant relationship between intelligence and achivement. Pandey R. P. and Singh R.A (1978) also found singificant positive correlation between verbal intelligence test scores and academic achivement. Gakhar, S.C.) (1984), (1986) found significant positive relationship between intelligence and academic acheivement.

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Although most of the investigators have reported high correlation between intelligence and academic achievement but some inverstigators have also reported low correlation between intelligence and academic achievement. Carrol (1943) and olson (1945) reported the evidence of academic failure at all levels of intelligence. Hadley and Kennedy (1949) considered intelligence tests alone to be inadequate for prediction of academic achievement. Dennis child (1964) held that" I. Q. and attainment measures give only a limited ideas of how a child might succeed in secondary school or University work". Jastak (1952) thought academic success and failure to be the function of the whole organism of which intelli- gence is just a part function. Similarly, Sharma T. R. (1972) also found that high achievers as a group were superior not only in intelligence but also in physical social moral, emotional and Volitional traits.

Anxiety is considered to be another important predict or of academic achievement. The findings concerning the relationship between anxiety and academic achievement are very much controversiel. Cox (1960) found a middle degres of anxiety to be favourable to school work. Lum (1960) revealed that "a little anxiety may well be the sine que-non of academic success". Lynn & Gordon (1961) suggested that there is a golden mean of neuroticism or anxiety neither too little nor too much being desirable for efficient performance. Spielberger (1962) reported positive correlation between anxiety and achievement. But most of the researchers like Keller & Rowley (1964), Singh (1972), Singh & Kumar (1977) reported either negative or insignificant relationship between anxiety and academic achivement. Culler, Ralph E. and Holahan, Charles (1980) found that high test anxious subjects had poorer study skills. Ganguli. P.K. (1981) found no significant difference between high and low anxious subjects on a non-standardized mathematical test.

Taking into conseration all contradictory results, generalization interms of anyone factor is not appropriate as Biggs (1969) has rightly concluded; "Whether highly anxious subjects perform well or badly, depends upon many further factors, such as the mode of and the methods of motivating, learning methods, and success of such learning, the set of the subject and so forth".

PROBLEM

In the light of the previous/findings, the present study aims at investigating whether upper achievers (UA) differ significantly from the lower achievers (LA) on mental ability and anxiety.

METHOD

The sample used in the present study consisted of 200 students (Ages 13-15) selected randomly from the schools situated in Darbhanga (Bihar). The Jalota's group test of general Mental Ability (1972) was administered to these students to find out the

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mental ability and Sinha & Sinha's comprehensive Anxiety Test (1968) to measure their anxiety. The examination marks were adopted as the criterion of academic achievement. On the basis of examination marks 25 percent upper achievers & 25 percent lower achievers were selected and compared on mental ability and anxiety scores.

RESULTS AND DISCUSSION

The mean score and SDs of the upper achievers and lower achievers were calculated on mental ability and anxiety scores and to find out whether the differences in mean scores of the upper and lower achievers were significant, "*t*" test of significance was applied. The results were presented in the following tables and interpreted in the light of available literature.

Table 1 : Mean comparisons of the upper achievers (UA) and lower achievers (LA) on mental ability.

Groups	N	Mean	SD	t	p
UA	50	47.91	14.80	2.69	.01
LA	50	40 69	13.04		

Form the table, it is evident that upper achievers (UA) have higher mean scores (47.91) than the mean scores (40.69) of the lower achievers and the difference between the two mean scores is significant at ·01 level. It is obviously because higher mental ability facility facilitates learning and consequently academic achievement. Thus the result is confirmed by the previous investigations.

Table-2 Mean comparisons of the upper achievers (UA) and lower achievers (LA) on anxiety.

Groups	N	Mean	SD	t	p
UA	50	22.19	15.29	2.31	.05
LA	50	15.29	14.90		

The table reveals that the upper achievers have higher mean scores (22.19) than the mean scores (15.29) of the lower achievers and the difference betwe en

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the two mean scores is significant at .05 level. It is obvious from the result that anxiety acts as motivating factor in some subjects, if not in all, to make concentrated efforts for higher achievements. Naturally, they put forth their maximum energy and spend maximum time in their studies and as such they are expected to have higher academic achievement that those who are not anxious, rather they are complacents. The result is also inconformity with some of the previous investigators like Cox (1960), Lynn & Gordon (1961) and Spielberger (1962) as stated in the introduction.

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Personality Differences Between Allergic and Non-Allergic College Students

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The present study investigated the relettonship between certain personality variable and the presence of allergic reactions in college students. 38 *subjects voluntarily completed an allergy information questionnaire along with the Guilford-Zimmerman Temperament Survey.* 13 *students were identified as allergic, but there were no significant differences obtained on the personality subscales.*

INTRODUCTION

An allergyis a condition of unusual sensitivity which some people may develop to substances that are harmless to others. These are called allergens, which include foods, pollens, house dust, animal hair, and medicine. Manifestations of the allergy may occur in sensitive tissues such as the nose, eyes, bronchial tubes and the skin.

Previous research suggests that people with allergies commonly have a family history of allergy. Some individual s have latent potentialities for allergies without overt symptomology.

It has been noted thatemotion can cause symptoms to appear in people who have a potential for allergy reactions. Stressful situations may act as a catalyst for just such reactions, (Lewis, 1972). People with hay-fever of ten have more severe problems during periods of emotional stress and few symptoms are exhibited during tranquil periods.

Asthma, a particularly severe allergie reaction, has also heen linked to emotional states. Researchers have reported that asthma attacks may be stimulated and prolonged by emotional causes (Miller and Baruch, 1957).

Dunbar (1935) indicated that there is a direct and definite correlation between emotion and the production of allergy attacks. This has been further supported by Dekker, *et. al.* (1960).

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The purpose of this study was to identify an "Allergic Personality," a personality that is related to allergy-producing emotional states, and to distinguish this "personality from non-allergic personality profiles.

METHOD

Subjects included 38 undergraduats Students. (18 male and 20 female) The average age of the students was 23. The "Allergies and Related Phenomena" survey study (Appendix A) and the Guilford-Zimmerman Temperment Survey were administered to all students on difierent days.

RESULTS AND DISCUSSION

Two tailed Mann-whitney U tests were computed to compare scores obtained between the allergy and non-allergy groups which appear in Table 1.

Mann-Whitney Comparisons Between

Allergic Versus Non-Allergic Subjects On Guilford-Zimmerman Temperment Survey Personality Scores

Table-1

	U	U1
G	155.5	169.5
R	152	173
A	116.5	198.5
S	150	175
E	131	194
O	142	183
F	136.5	188.5
T	162	163
P	154	171
M	109.5	190

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Table 1 shows that U and U1 failed to show significance at the p-.01 level in all comparison. Results did not indicate any allergic/non-allergic differences in personality-variables, as measured by the Guilford-Zimmerman test.

An alternate approach to this study may be to make individual comparisons rather than a group vs. group comparison, Projective tests may prove more significant in studies such as these.

A suggestion for further study of persona lity may be to compare individuals with latent potentials (without overt symptoms) to those who have allergies with traditional manifestations.

Past researchers have indicated that allergic and subsequent. asthmatic manifestations can be of ten considered products of emotional stress. Perhaps to assume a specific allergic personality is not appropriate. The eliciting emotional state may be spontaneous and not an inherent factor exhibited by some specific personality.

Appendix A

Allergies And Related Phenomenon

1. Code Number.....
2. Age.....
3. Sex.....
4. Have you ever, or are you presently an individual with allergies ? Yes or No.* *If you checked Yes please answer the following questions.
5. At what age did you first notice allergic manifestations ?.....
6. List the primary allergy stimuli that effects you. Ex. a. Asthma b. Hay Fever c. Rose Fever d. Dogweed-Pollen e. skin related allergies ie, Hives, Eczema and Rashes etc. f. Other.....
7. Have you ever received medical treatment for your allergies ? yes or No.....
8. Briefly, what was the nature of such treatment ex. a. skin tests b. special diet c. shots d. etc.....
9. Are you presently under a doctor's care for your allergies ? Yes or No.....

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10. Did you ever or are you now receiving allergy injections and/or oral medication ? Yes or No..... .....

11. During which season are your allergies most bothersome ? a. summer b. winter c. fall d. spring e, year round.

12. Do and members of your family also exhibit allergic manifes tations ? Please list the relationship.

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Development of Reasoning, Hypothesising and Discovering Attitudes At Infancy

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INTRODUCTION

Human learning process involves different stages of intellectual development right from simple sense-perceptions to higher order of reasoning, hypo-thesising and discovering abilities. Earlier, experimental studies on behavioural attitudes of infants revealed certain roots of differentiating capabilities in them. Arthur T. Jersild's study in this field revealed that a child gives different cries for hunger, pain and discomfort,[1] It provides the primary evidence of expressing different feelings in different ways by the infants using the same signal. A further study on the other attitudes like reasoning, hypothesising and discovering in infants needs to be probed because of the following two important reasons. Firstly, to understand the behavioural patterns of infant stage, which reveals the roots of early human behaviour. Secondly, to develop their attitudes of reasoning, hypothesising and discovering further through play, activity and teaching.

STATEMENT OF THE PROBLEM

The present article limits itself to study the reasoning, hypothesising and discovering attitudes of children at infant stage i.e., from birth to two years of age.

REVIEW OF RELATED LITERATURE

The Gestalt School founded by Max Werthimer and the followers of the School Koffka, Kohler and Lewin developed the theory of development of cognition in human learning process. Jean Piaget, further exploring into this field has given significant importance to the cognitive attitudes of the children. But Piaget asserted that reasoning and hypothesising characters arise at the age of twelve years, which he called the stage at this as Formal Operational Stage.[1] Piaget also asserted that at infant stage, which he

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1. Arthur T. Jersild, Child Psychology, (Englewood Cliffs: Prentice-Hall Inc., 1955), p. 402.
2. Jean Piage, "The Stages of Intellectual Development of the Child", Chapter in Readings in Child Development, Paul Henry Mussen et al., ed. (New York: Harper and Row, Publishers, 1965), p. 297.

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called it as Sensorimotor stage, learning is of only assimilatory and accomodatory in nature.[2] Piaget further stated:

"Sensori-motor intelligence acts like a slow-motion film, in which all the pictures are seen in succession but without fusion, and so without the continuous vision necessary for understanding the Whole"[1].

After Piaget, the recent Child Psychologists Barbel Inhelder, Hermine Sinclair and Magali Bovet also explored in the field of the development of cognition in human learning process. Hanus Papousek's experimental studies on infants revealed that conditioned responses do occur within the first days of life of newly-born infants[2]. Hermine and Maynard state that the study on infants, especially new borns, brought a new awareness of the importance of early perceptual experience and the steps in differentiation and classification of the objects and organisation of observations as it can be observed and tested in normal middle class children[3]. They further state that play, game and cognitive development are functionally related[4]: Psychoanalyst, Erik Erikson suggests that the young children's play is analogous to the planning of an adul[5]. These studies init iate a further research in the field of development of reasoning, hypothesising and discovering attitudes at infant stage.

HYPOTHESIS

Reasoning, hypothesising and discovering attitudes develop at infant stage.

METHODOLOGY

Observation method and anectodes technique had been adopted to collect and record the data required from sample population, at different stages of infant level, in different situations.

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2. Ibid., pp. 292-8.

1. Jean Piaget, The Psychology of Intelligence, (London: Routledge and Kegan Paul Limitted, 1971), pp. 120-1.
2. Hanus Papousek, "Experimental Studies of Appetitionl Behaviour in Human New Borns and Infants", Chapter in Readings in Child Development, Paul Henry Mussen, et al., Qp Cit., p. 50.
3. Hermine D. Behrens and Glenn Maynard, The Changing Child: Readinge in Child Development (Illinois: Foresman and Company, 1972), p. 5.
4. Ibid., p. 312.
5 Ibid., p. 308.

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SAMPLE

The sample observed under uncontrolled con-ditions constitutes a small group of infants of both sex-Hima, Manoj, Renu, Avinash and Nalini. The sample populations belonged to middle class related families of employed and small business sections.

COLLECTION AND INTERPRETATION OF DATA

The data collected has been presented and interpreted as follows :

I. Incident : Infant, Hima (twelve months) standing by the side of a cot stretched her hand to catch the ball found on the bed-sheed. But the ball was just away from her hand and she could not get it. Then, suddenly the infant pulled the bed-sheet towards herself, where by the ball moved near to her along with the bed-sheet.

Interpretation : The above activity of the infant reveals that the child might have had the complete picture of the environment related to the ball-the ball, her hand position not touching the ball,the flexibility of bed-sheet to move and the nature of the ball to move along with bed-sheet which might have led to the development of a reasoned hypothesis that she could get the ball by pulling the bed-sheet towards herself, which she eventualey did. This behavioural study reveals the evidence of an infant's attitude to understand the situation as a whole, to hypothesise and to discover based on their concrete experiences.

2. *Incident* : Infant, Nalini (seventeen months) could express only a few words with little clarity. At that stage an incident occured. Her father was angry at her mother and was speaking loudly. At that stage, the infant who was standing near by her father left him and went near to her mother and said : 'thodtha' (I will beat you), warning her father by shaking her pointed right hand index finger.

Interpretation : The incident occured when Nalini was able to understand and express only a few words. Infant, Nalini did not know the actual meaning of the loudly spoken words of her father. Even then, the infant accurately predicted that her father was doing something harm to her mother. The child might have predicted it by experiencing and understanding the whole situation her father's angry face, loudly spoken words by him and her moiher's sorrowful facial feelings. Further, the infant's warning activity reveals that the psychological behaviour can not only be directed towards under standing and predicting the situations and events but also can be directed towards active participation to control them, simultaneously.

3. *Incident* : Avinash (eighteen months) had been asked to eat the biscuit that was just dipped in hot tea. Then, the child replied, 'Ammo, kaluthundi' (Oh, it will burn).

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Interpretation : In the above incident, the infant expressed the idea that it would burn if the biscuit dipped in hot tea would be eaten. The infant might have related the 'hotness' to the biscuit as it was dipped in hot tea and hypothesised that the biscuit would be hot, too. It reveals that infants can hypothesise by relating the events and understanding the situation.

4. *Incident* : Manoj (twenty months) and Renu (eighteen months) were sitting near a hot milk glass. Manoj warned her by saying, 'muttukoku, kaluthadi' do not touch, it will burn), when she was about to touch the glass.

Interpretation : Infant, Manoj might have seen the fumes coming out of hot milk glass and might have understood that the glass would be hot, too. It made him to express the idea that it would burn the hand if the hot milk glass would be touched. Thus, the expression of the infant clearly reveals the development of reasoning attitudes at infant stage.

5. *Incident* : Avinash (twenty months) was standing by the side of his father, who was sipping tea. The infant looked at his father and went to near by table and picked up a biscuit packet. Then, taking a biscuit piece out of it came to his father had offered it to him, saying, 'thicho' (take it). His father had taken it and was about to eat. Showing the tea cup, the infant again said; tea la munchuthoni thinale, ba vuntadi' (dip the biscuit in tea and eat, it would be tasty).

Interpretation : Early experience of the child, eating the biscuits after dipping them in tea might have formed an idea in the child that the biscuits would be tasty to eat if they had been dipped in the tea. The idea had been recalled by the child when his father was sipping tea and the same was expressed by him. Further, the infant activity-getting the biscuit packet, taking one piece out of it, offering it to his father and his expression-saying to eat the biscuit after dipping it in tea, clearly reveals that an infant can act in a reasoned way relating the situations and events, and can accomodate and express ideas based on reasoning.

6. *Incident* : Hima (twenty two months) was able to express her ideas in words, to certain extent. At that stage, she had been asked :

'neeku a, b, c, d, lu vasthaya ?' (do you know a, b, c, d's). Infant, Hima replied :

'naaku a, b, c, d lu vasthayi 1, 2, 3, lu vasthyai, inka ... pussy cat pussy cat vasthadi, ring o' ring o' roses, all fall down vasthadi (I know a, b, c, d's, 1, 2, 3's and ... I know pussy cat pussy cat and I know ring o' ring o'roses, all fall down.)

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Again, she had been told that she did not know a, b, c, d's. But, the child repeated the same answer.

Interpretation : In the above incident, the infant answered not only what had been asked, but also expressed all other events that she knew. It reveals that the infant perceived the question and applied it to the whole situation of what she knew. It further reveals that perceptual ideas, their memory and expression in infants are based on understanding the situation as a whole.

7. *Incident* : Nalini (twenty two months) went to her grand-mother and asked, 'naana yedi ? (where is father ?). Grandmother did not reply. The infant went to her mother and asked the same question. Her mother told that she did not know. Then, the infant went to the next room and had seen for a while, getting towards bath-room. Then, immediately she ran to the bath-room door and called, 'naena' (father). The infants father replied 'aa' (yes).

Interpretation : In the above incident, the infant went to her grandmother and asked the question. Then, she went to her mother and asked the same question. This activity of the child reveals the attitudes of enquiring at infant stage. The infant activity of going to the next room to find her father reveals her searching attitudes. Suddenly going to the bath-room door and calling her father from out-side the door reveals that the infant might have listened to water-falling sound coming from bath-room, which might have led to an hypothesis that her father would be there in the bath-room, which eventually led to 'finding' of her father. The study reveals that enquiring, hypothesising and discovering attitudes develop at infant stage.

CONCLUSIONS

The study on behavioural patterns of infants reveals that enquiring attitudes develop at this stage. It also reveals that infants try to understand the situations and events as a whole and consequently get the entire ideas about them. The study further reveals that reasoning, hypothesising and discovering attitudes develop at infant stage. The study highlights the need to develop effective methods to strengthen these attitudes right from infant stage, through play, activity and teaching.

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An Investigation into the Effects of sex and Socio-Economic Status on Performance on a Branching Programme

S.K. Dwivedi

The experiment was conducted on 80 tenth grade biology students of Shimla. The main objective of the present investigation was to examine the effects of sex and socio-economic status on performance of the subjects on a branching programme. in a segment of biology. The findings revealed : (i) A significant difference in the performance of boys and girls on a branching programme (ii) Sacio-economic status significantly affects performance of the subjects on the criterion test. (iii) The interactional effect of sex and socio-economic status was also fonnd to be significant.

INTRODUCTION

A programme is an educational device that will cause a student to progress through a series of experiences that the programmer feels will lead to the students' proficiency. A number of studies have already established the effectiveness of programed material in teaching biological concepts (Teacher, Hardwick and Collins, 1973, Monwarning, 1972 and Strickland & Randolph 1975). Programmed Learning with an inbuilt facility of question asking and answering seems to be a more appropriate method of teaching science subjects. The most crucial and indentifying feature of the style of programming used in the present investigation (i.e. branching style) is that, the material presented to each student is continuously and directly controlled by his performance in answering the question.

Etter (1969) studies the variables of sex and socio-economic status with reference to programmed learning material and concluded that hlgh socio-economic status males

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scored significantly higher than others. Bhushan (1971) found that programmed instruction is more effective for the students who belong to a lower socio-economic status than for others. Patel (1975) and Dewal (1974) indicated that the students from different strata of the society performed better with programmed learning material than with conventional teaching. The present study aims at studying the variables of socio-economic status and sex in relatiion to performance on a branching programme.

Objective of the study : The study was undertaken to achieve the following objectives.

(1) To examine the performance of the subjects belonging to high and low levels of socio-economic status on performance in a branching programme, a segment of biology.

(2) To compare the relative performance of boys and girls on a branching programme in a segment of biology.

(3) To study the interaction between sex and socio-economic status with reference to performance on a branching programme.

METHODOLOGY

Sample : The sample in the present investigation comprised of 80 biology students drawn from four High/Higher Secondary Schools in Shimla. The schools were selected randomly. The subjects included were 40 boys and 40 girls studying biology at the class-X stage. The selection of the subjects under study was also random.

Tools : Following tools were employed for the collection of data.

(1) A branching programme on "Pollination in Angiosperms" developed by Sharma (1981).

(2) The modified form of Dev Mohan's (1971) socio-economic status scale.

Procedure : In the beginning of the experiment all the subjects were given the socio-economic status scale. On the basis of the scores obtained on the socio-economic status scale' the students were classified into high and low socio-economic status groups. For this classification, Kelley's (1939) formula of 27 percent top and 27 percent bottom was applied. Befores, the administration of the programmed material pre-test was given in order to record the subjects' initial performance. Necessary instructions pertaining to the mechanism and working of the programmed material were given to the subjects. The students were allowed to read the material at their own pace. After the students had read the programme. they were given the post-test. The scores of the students on the post-test depicted their final performance level and formed the raw scores for the further analysis of the data.

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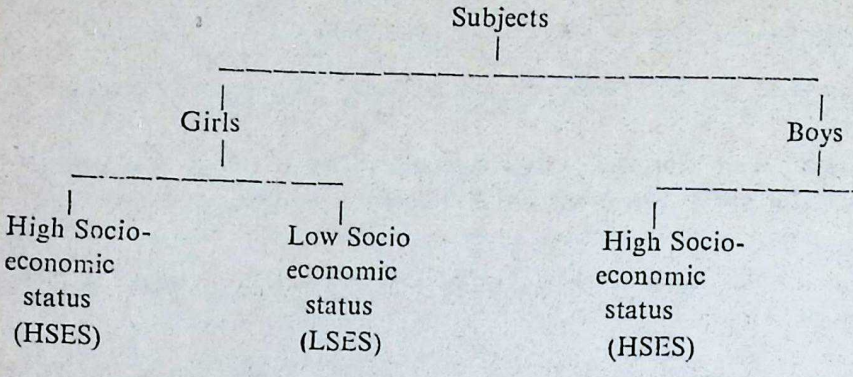
Design : The present experiment was based upon 2×2 factorial design. The subjects were classified into four treatment combinations, in each treatment group there were twenty subjects. The layout of the experiment including the composition of the subjects in each treatment group is schematically presented in the following figure.



Analysis and Interpretation of Data : The analysis of variance technique was used for interpreting the data obtained as a result of treatment to the experimental groups. Analysis of pre-test scores showed that the four treatment groups did not differ significantly in initial learning. Henceforth, all analyses were done on the post-test scores. A summary of the analysis of variance has been given in table-I.

Table-I. Summary Table of Analysis of Variance

Source of Variation	SS	df	MS	F	Level of Significance
Sex (A)	2734 61	1	2734·61	29·17	·01
Socio-economic Status (B)	11737·01	1	11737·01	125·23	·01
Interaction (A×B)	4788·37	1	4788·37	51·09	·01
Within Groups.	7123·05	76	93·72		

RESULT AND DISCUSSION

The F. ratio for the main effect of Sex was found to be 29 17, which is significant at both the levels of confidence. It indicates that there is significant difference in the performance of boys and girls in a branching programme in a segment of biology. Therefore, it was inferred that sex significantly affects performance on a branching programme.

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The results are similar to that of Etter (1969) who found significant differences in the performance of boys and girls when taught through progrrmmed learning material. However, the results are contrary to the finding of Bhusan (1973) and gosain (1977) who found no relationship between sex and attainment through programmed learning material, The main reason for this may be the different style of programming used in their studies and also the nature of the content.

The F. ratio for socio -economic status was found to be significant at ·01 level of confidence. It was, therefore, conclued thet there is significant difference in the performance of boys and girls belonging to high and low socioeconmic status groups. It was found that the performance of high socio-economic status males was superior to all other treatment groups. The resuls are in confirmity with the results of Etter (1969).

The F. ratio for the interactional effect of Sex and socio-economic status was calculated to be 51.09, which was significant at ·01 level of confidence. It can, therefore, be stated that sex and socio-economic status interact significantly to affect performance of the subjects on a branching programme in a segment of biology.

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Motivational Determinants of Creativity

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The role of Achievement Motivation and Risk taking in Creativity has been examined on a sample of four hundred school children. The criterion variable has been measured by Wallach-Kogan (1965) Battery of Creativity Instruments as adapted by Sharma (1976) Predicting variables were measured by Bhatia Achievement Motivation Test and Kogan-Wallach (1964) choice Dilemma Questionnaire (Risk taking). Inconsistant results have been obtained in case of the male and the female groups. Achievement motivation failed to differentiate the high and the low creatives in males and also in females. However, the Risk taking could differentiate the high and the low creatives but only in male subjects.

INTRODUCTION

The concept of Creativity and intelligence are elusive, vague and even mystical untill recently when theoretical as well as impirical attempt has been made to understand it in clear perspective. Intelligence consists in convergent thinking which centres found logical possibilities while creativity is divergent thinking which emphasises searching activity with freedom to go in a different directions.

Several personality factors have been correlated with creativity but the role of motivation in creativity seems to be conflicting. Raina (1968) studied the effects of competition on creativity and observed that creativity test scores may be improved by the use of competition. But In another article, Raina (1970) found conflicting results of the role played by motivation in generating creative performances. Similar conflicting results with regard to motivation and creativity have been observed by Halpin & Halpin (1965) and Johnson (1974). Maddi (1965) thus suggested a pluralistic approach-type theory among the present motivational scheme and concluded need for novelty in only one of the necessary factors in production of creative acts. In the present emperical report, an attempt has been made to examine the role of some motivational factors in relation to creativity.

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The sample consists of four hundred school students (200-males and 200-females) reading in matric class. The mean age of the male ($\underline{M}$=14·33, S.D.=1·54) and the female ($\underline{M}$=14.10, S.D.=1·37) students did not differ significantly (t less than 1, d f=398, p greater than .05). The entire population of students present on the first day of the visit in the class were covered with the assumption That the class a whole was normally distributed.

Criterion variable has been measured by Wallach-Kogan (1965) Battery of Creativity Instruments as adapted by Sharma (1976). Predicting bariables were meaured by Bhatia Achievement Motivation Test and Kogan-wallach (1964) Choice Dilemma Quesionnaire (Risk-taking).

In order to examine homogenity in the sample with regard to the crition variable (Creativity), statis-tical comparison of the two groups (Male & Female students) has been presented in Table 1).

It is clear that the mean creativity score (168-21) of the male student is greater than the mean creativity score 129.46) of the female students and the difference between the two means (M=38.75) is statistically significant beyond chance (t=52.36, *df* 398, pless than .01) and this led to analyse the criterion variable (Creativity) distinctly in male and female sample.

In order to examine the high and the low creatives differ significantly on their achievement motivation scores, t-test of difference was applied, and the results have been t:bulated in table 2.

It is evident that high and the low creatives in the male and also in female students donot differ significantly beyond chance.

In order to examine the high and the low creatives on risk taking scale would differ significantly, t-test of difference was applied on the male and the female groups, and the results have been tabulated in Table 3.

It is evident from the results (Table 3) that the high and the low creative males differ significantly beyond chance. While the high and the low creative females do not differ statistically to significant level.

Thus it can be concluded that motivational factors in relation to creativity do not give consistant result. Achievement motivation failed to differentiate the high and low creative, while the risk-taking could differentiate them only in the case of male subjects but not in the female group.

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Table-1. Comparison of mean creativity scores of males and females

Groups	N	M	S.D.	S.E.	t-value	p—Value
Male	200	168.21	67.43	17.93	52.36	·01
Female	200	129.46	43.05	11.45		

Table-2. Comparison of the high and the low creative groups in terms of their achievement motivation scores among the males and also among the females.

Groups		M	C.D.	SEM	t-value	df	p
Males	High	24.71	3.06	.31	.75	198	N.S.
	Low	24.29	4.66	.47			
Females	High	24.70	7.33	.73			
	Low	24.07	4.54	.45			

Table-3. Comparison of the high and the low creative groups in terms of their risk-taking scores among the males and also among the females.

Groups		N	M	S.D.	SEM	t-value	df	p-value
Male	High	100	98.03	22.40	2.24	3.38	1.98	·01
	Low	100	82.42	35.75	3.57			
Female	High	100	103.44	14.98	1.50	.54	198	N.S.
	Low	100	102.25	16.01	1.60			

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A Study of Creativity in Relation to Personality, Locus of Control and Academic Discipline

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The present study was an attempt to find out the relationship of creativity with personality, locus of control and academic discipline. 140 *students* (70 *males and* 70 *females*) *were selected from Intermediate classes. Verbal and figural tests of creative thinking by Torrance, Form 'A' of the Junior-Senior High School Personality Questionnaire by R. B. Cattell and the Intellectual Academic Responsibility Questionnaire were administered to collect data. The significance of the difference between means and Chi-Square were calculated to analyse the data. The results show that* (*i*) *the high creatives are differentiated form the low significantly at* .05 *level of confidence on only three factors of personally namely* D_1, Q_2 *and* Q_4, (*ii*) *Creativity is not related to perceived control,* (*iii*) *Science students do not differ significantly from Arts students in creativity.*

INTRODUCTION

Educationists as well as psychologists have concerned themselves with the study of creativity. Although the Importance of creativity for the individual the society and the nation at large is of great significance yet, no universal definition of creativity is available. Torrance has defined creativity as a "process of becoming sensitive to problems, gaps in knowledge missing elements and so on; searching for solutions, making guesses or formulating hypotheses and possibly modify and retesting them and finally communicating the results". Hasen and Butcher (1966) administered certain intelligence and creativity tests to 100 boys and 75 girls and found a positive relationship between them. creative children by reason of their being different from peers require special attention and sympathy from the teacher. Srivastava (1977) related creativity to birth order and number of siblings by administering Mehdi's, test of Creative thinking to 543 male urban High School students. He obtained significant association between creativity and number of siblings

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It is possible that the systematic and quantifiable observations obtained by means of objective personality tests are able to detect some of the subtle characteristics of the creative persons. The creative person appears to have certain distinctive personality characteristics and these traits may be recognizable in younger individuals before adult accomplishment has demonstrated their ability.

As regards the relationship of externality and internality with creativity, it may be said that high creative persons show some behaviours like independence in thinking, unconventionality, broad interest and openness. Banber (1975) has reported that internals are more fluent and flexible whereas externals are more elaborate.

A major part of work in the domain of creativity has been concerned with scientific creativity. Many of these works have concentrated on finding the relationship in the creativity of students studying in science and arts. Srivastava and Jha as reported by Tiwari and Pal (1983) made an effort to probe into the academic qroup differences in the creativity scores of students studying in higher secondary schools. When the two groups were compared the mean score on creativity was found high for science group and low for the arts group.

Objective of the Study : The present study aims to find out the relationship of creativity with personality correlates, locus of control and academic disciplilne.

Hypotheses

1. The personality correlates of creative students will differ from that of the non-creative students.
2. High creative students will be externals and low creative students will be internals.
3. Science students will be more creative as compared to the arts students.

METHODOLOGY

Sample : The subjects were 140 XI class students (70 males and 70 females) form two colleges of Lucknow who volunteered for this investigation.

Tools : The following tooks were applied for this particular study :

1. Torrance Tests of Creative Thinking (TTCT) Verbal and Figural Tests Form A and B. All the activities were scored according to the instructions laid down by the author in the Scoring Guide. The aetivities were (a) Picture Completion (b) Circles, (C) Product Improvement and (d) Unusual Uses which were scored for Fluency, Flexibility and Originality.

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2. Form 'A' of the Junior Senior High School Personality Questionnaire. The individual obtaining a score between 1-3 is below on the scale and the one obtaining a score between 8-10 is ranked high on the scale.

3. The Intellectual Academic Responsibility Questionnaire. A childs I+Scores are obtained by summing all+events and his I-score is the total of all-events. His total I scores is the sum of his I+and I—subscore.

Procedure : The subjects were administered the Torrance Tests of Creative Thinking and High School Personality Questionnaire on the first day. They were asked to indicate whether they came from Arts disciplince or Science discipline. The Intellectual Aademic Responsibility Questionnaire was administered the second day. The responses of the subjects on various tests were recorded on answer sheets provided to them. For purpose of comparison between high and low creativity two groups on the basis of Quartile Deviation—Q_1 and Q_3 were formed in the following manner :

	Groups	T—II Score Range	
1.	Low group	130—139	Q_1
2.	High group	160—169	Q_3

According to calculations Q_1=132·8, Q_3=167.1.

RESULTS

TABLE—I : Showing Means, SDs, and CR value on Fourteen Personality Factors of HSPQ.

Personality Correlates		Low Creativity	High Creativity	CR Value	Inference
		(N=35	(N=35)		
A	M	3·23	3·06		
	SD	2·36	1·17	·39	NS
B	M	2·40	2·60		
	SD	1·93	1·55	·50	NS
C	M	6·60	6·08		
	SD	2·00	1·50	1·25	NS
D	M	6·57	5·11		
	SD	2·28	1·99	2·92	p∠·05
E	M	7·14	5·97		
	SD	4·07	2·13	1·51	NS

Contd—

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F	M	3·80	4·57		
	SD	1·80	1·73	1·83	NS
G	M	3·31	4·03		
	SD	1·61	1·86	1·80	NS
H	M	4·86	4·11		
	SD	2·19	1·38	1·74	NS
I	M	3·29	3·68		
	SD	2·20	1·89	·81	NS
J	M	3·94	3·57		
	SD	1·57	1·59	·97	NS
O	M	3·60	3·17		
	SD	1·87	1·20	1.16	NS
Q_2	M	5·23	4·20		
	SD	2·00	1·61	2·39	p∠.05
Q_3	M	4·57	4·28		
	SD	1.77	1·53	·76	NS
Q_4	M	2·20	1·66		
	SD	1·30	·82	2·34	p∠·05

Table-II : Showing the Means, SDs and CR value on Locus of Control for Low and High Creativity.

	x (*I*++ *I*—)				
	M	M	SD	CR Value	Inference
Low Creativity	35	25·40	3·47		
				·06	NS
High Creativity	35	25·46	5·27		
	y (*I*—*only*)				
Low Creativity	35	12·54	1·97		
				·55	NS
High Creativity	35	12·20	3·06		
	z (*I*+*only*)				
Low Creativity	35	13·63	1·75		
				.82	NS
High Creativity	35	13.25	2·19		

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Table-III : Showing a Relationship of Creativity and Academic Discipline.

	Science	*Arts*	=
Low Creativity	21	14	35
High Creativity	18	17	35
=	39	31	70

Chi-square = ·52 NS

INTERPRETATION OF RESULTS

On the examination of Table I, it is found that the high creatives are differentiated from the low significantly at .05 level of confidence on only three factors of personality namely, D_1 Q_2 and Q_4. This shows that the high creatives are more undemonstrative and show a phlegmatic temperament as compared to the low creatives. Foctor Q_2 reveals that high creatives are more group dependent and are sound followers. Further they can be differentiated on Factor Q_4 meaning thereby that they are relaxed, unfrustrated and composed. These findings are supported by Pearce (1968), Taylor and Barron (1953). After a review of more than two dozen studies in this area Dellas and Gaier (1970) concluded that this evidence pointed out a common pattern of personality traits among creative persons and also that those personality factors might have some bearing on creativity. The authors reach similar conclusions after summarizing a series of studies with subjects of younger age. Cattell and Drevdahl (1955) compared a highly creative scientist with an average population and found that he was reserved and cool, serious and confident. Mackinnon (1960) and his associates at the University of California selected individuals from different professional groups such as architects, writers scientists and examined them quite thoroughly by methods that are available. They found that the creative person is deliberate and reserved. In case of conflicts it would appear that creative individual has the capacity to tolerate the tension if created in him by strong apposing values.

Thus, it is concluded that the hypothesis that the personality correlates of creative children will differ significantly from that of the non creative group has been sustained on three personality factors only. on the examination of Table III, it was found that creativity is not related to 'perceived control'. The findings of Panda and Panda (1978) also support the findings of this study.

Table-III reveals that science students do not differ significantly from arts students in creativity. The general belief that science students are more creative than

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the arts is not substantiated by the obtained insignificant results. Thus, the hypothesis of this study has been rejected. This finding is supported by Rawat and Garg as cited by Tiwari and Pal (1983).

In order to conclude we can say that although no significant differences have been found in this study but other studies have fonnd significant differences This encourages for. fu rther studies in this area.

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Some Personality Determinants of Attitude Towards Youth Activism

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The study aimed to find out if attitude towards Youth activism is a critical function of the personality variables of extraversion, neuroticism, anxiety and intolerance of amiguity. On the basis of the scores obtained by 200 male high school teachers on Maudsley Personality Inventory, Taylor's Manifest Anxiety scale and Budner's Intolerance of Ambiguity scale, groups of high and low scorers (N=50 each) on extry-version, neuroticism, anxiety and ambiguity-tolerance were constituted. The high and low scorers on each dimension were then compared for their attitude towards youth unrest as measured by the AYU scale (Sinha, 1976), a five point Likert scale constructed for this purpose. The extraverts, the high-anxious and the ambiguity-intolerant persons had significantly more favourable attitude towards youth activism than, respectively, the introverts, the low-anxious and the ambiguity-tolerant persons (p=·01 each). The attitude did not vary significantly with neuroticism.

The problem of youth activism has been studies exteniively and from different angles during the last two decades and this has yielded a rich crop of research findings (Abramowitz, 1974. Altbach, 1968a 1968b, 1968c Astin 1968 ; Bhargava, 1968, Carroll, 1969 ; De Bona, 1969 ; Dube, 1971 ; Gore, 1965 ; Kabir, 1958 ; Lipset 1967 ; Lipset & Ladd, 1974, Sarkar, 1960 : Sarkar, 1974 ; Sen, 1957 ; Shrivastava, 1974 ; Sinha & Sinha, 1974 ; Szepanski, 1959 etc.) There is, however, a growing rellisation that all persons do not view this problem of youth unrest is the same way. While the conservative, non-experimenting Individuals vigorously condemn the restive activities of the youth as destructive and wild, the progressivists and radicals hold high hopes from these activities for the nltimate renovation of the distntegrating society (Sinha, 1976). Prugh (1969) contended that youth activism is a revolt aiming to restore human values and the dignity of the

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individual. Sarkar (1974) viewed youth unrest as representing a creative flow and as aiding the continuous process of national development. It is almost clear that individuals differ in their attitude towards youth activism. A strong empirical support to this contention came from Sinha (1976) who, in a study of three hundred non-student adult males, found the attitude towards youth unrest to be normally distributed in the sample. This fact of individual differences in attitude towards youth activism which now seems to be a fairly established phenomenon, has added a new dimension to research and investigations have now turned to the task of discovering the psychological geneses of the widely differing attitudes towards youth activism. The question asked is why some persons have an unfavourable and others a favourable attitude towards youth activism. Sinha (1976) did a valuable piece of work by searching the determinants of attitude towards youth unrest in the realms of parental style and personality variables and concluded that these variables are criticals in the determination of attitude towards youth activism. For example, it was found that the high rejecting fathers have a significantly less favourable attitude towards youth unrest than their low counterparts. Similarly the high protective and the high indulgent fathers have a significantly more favourable attitude than their low counterparts. On the side of the personality variables it was found that those high in radicalism, socialisation, self-control and insecurity hold a significantly more favourable attitude towards youth unrest than those low in these personality characteristics. These findings lent impetus to a probe into some further probable personality determinants of attitude towards youth activism and the investigation reported here was addressed to this end. The objective of the study was to find out whether attitude towards youth activism is a critical function of the personality variables of extraversion, neuroticism anxiety and intolerance of ambiguity. The study proceeded to test the following hypotheses :

(i) The extraverts and the introverts would differ significantly in their attitude youth activism.

(ii) Those high and those low in neuroticism would differ significantly in their attitude towards youth activism.

(iii) Those high and those low in anxiety would differ significantly in in their attiude towards youth activism.

(iv) Those high and those low in intolerance of ambiguity would differ significantly in toeir attitude towards youth activism.

METHOD

Measuring less Instruments : For the measurement of attitude towards youth unrest Sinha 's (1976) Attitude Towards Youtn Unrest Scale (AYU Scale) was used which

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is a 25-item five-point Likert scale developed in Hindi with a non-student adult male sample drawn from different sections of the society and with the precise purpose of measuring attitude towards youth unrest. The validity of the scale is established through the techniques of 'Content-validity' and "Known groups discrimination" and the scale has a test-retest reliability coefficient of .90 over a 30-40 days interval.

For the measurement of the personality variables of extraversion (E) and neuroticism (N), a Hindi version (De & Sinha, 1968) of Eysenck's (1959) Maudsley personality Invenrory (MPI) was used. For the measurement of anxiety, a Hindi version (Singh, 1965) of Taylor 's (1953) Manifest Anxiety scale (MAS) was used. Intolerance of ambiguity was measured through a Hindi version (Bhushan, 1967) of Budner's (1962) Intolerance of Ambiguity Scale (IAS). In so far as the translated forms have yielded reliability coefficients that closely approximate those of the original scales the use of these forms seemed justified. The Hindi MPI scales have test-retest reliability coefficients of .78 for the E and .82 for the N scale against .81 and .83, respectively for the original E and N scales (Eysenck, 1959). Further, the attenuation-corrected odd-even reliability coefficient is .76 for the Hindi E scale against .75 to .85 reported for the original scale with different samples and ·80 for the Hindi N scale against .85 to .95 found for the original scale with different samples. The test-retest reliability coefficient of the Hindi MAS is .88 (Singh, 1965) against .89 of the original scale (Taylor, 1953). with regard to the IAS, the Hindi verasion is found to have a test-retest reliability coefficient of .74 (Bhushan. 1967) againit .85 reported for the original scale (Budner, 1962). The attenuation corrected Split-half reliability coefficient is, however, found to be .81 for undergraduate sample (Bhushan, 1967) and .79 for the postgraduate sample (Singh and Prasad, 1974).

(*b*) *Sample* :—The initial sample consisted of 200 male teachers of high school. Out of these one hundred teachers belonged to schools located in towns (district headquarters) and the remaining one hundred came from schools located in villages (10 Kms. or more away from district subdivisional headquarters). Further, only such teachers were selected who were in the age-range of .35 to 45 years, had received formal education at least upto the graduation standard and had at least two living children.

(*c*) *Procedure and Design* :—The Ss were first made to respond to the extraversion, neuroticism, anxiety and intoleance of ambiguity scales with the order of the administration of these tests having been made to vary from subject to subject. On the basis of the scores on these tests 'high' and 'low' criterion groups were constituted for each of the four personality variables, the cut-off points being Q_3 (upper 25%) for the high and Q_1 (lower 25%) for the low groups. On the extraversion scale the 'high' and

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the 'low' groups constituted, respectively, the 'extraverted' and the introverted' groups, to the Ss of the eight criterion groups now the AYU scale was administered and the 'high' and 'low' groups on each personality variable were compared, with the help of the t-test, for their mean AYU scores which indicated the attitudes of these groups towards youth activism. If the aforesaid personality variables are critical determinants of attitude towards youth activism then those high and those low in these variables should have significantly different mean AYU scores.

Results : The obtained results are presented in Table 1 below :

Table-1 Ayu Scores of the high and low extraversion, neuroticism, anxiety and intolerance of ambiguity groups along with the critical ratios.

		N	Mean AYU Score	SD	t-ratio	df	p-value
Extraversion	High (Extraverted)	50	89·62	13·12	5·69	98	∠·01
	Low (Introverted)	50	76·20	10·06			
Neuroticism	High	50	78·24	11·16	·41	98	ns
	Low	50	76·88	11·84			
Anxiety	High	50	87·14	12.16	2·69	98	∠·01
	Low	50	80·72	11·48			
Intolerance of Ambiguity	High	50	88·46	12·18	3·87	98	∠·01
	Low	50	79·52	10·64			

It is clear from the results that the extraverts have a relatively favourable attitude towards youth activism than the introverts. The mean AYU Score of the extraverts is 89·62 while that of the introverts is 76·20 and the difference is significant at ∠·01 level of confidence, the obtained t-ratio being 5·69. Neuroticism has, however, failed to cause any significant difference in the AYU Scores. The mean AYU score of the high-neuro-

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ticism group is 78·24 while that of the low neuroticism group is 76·28. The high-neuroticism group has thus a slightly more favourable attitude towards youth activism than the low-neuroticism group but the difference is statistically insignificant. The t-ratio being as small as ·48, the null hypothesis is evidently retained. The high anxious group has a relatively more favourable attitude towards youth activism (mean AYU score=8714) than the low anxious group (mean AYU score=80·72). With a t-ratio of 2·69 the difference is significant at $\angle$·01 level. Similarly, those high in ambiguity-intolerance hold a relatively more favourable attitude towards youth activism than those low on this dimension. The mean AYU score of the high ambiguity-intolerance group is 88.46 while that of the low ambiguity-intolerance group is 79-52. The difference is significant at $<$·01 level of confidence (t-ratio=3-87). Thus, three out of the four hypothese stand verified while one hypothesis (hypothesis -ii) stands rejected.

Discussion and Conclusion :

It is indicated from the results that some personality variables play a critiscal role in the determination of one's attitude towards youth activism. This, by and large, is supportive of the earlier findings of Sinha (1976) who also found this attitude critically determined by the personality variables of radicalism, socialisation, self-control and insecurity. In the present investigation it is found that the extraverts have a relatively favourable attitude towards youth activism than the introverts. That the extravert, who is temperamentally an outward-oriented and activity-disposed person, should find some kick in youth activism and view it with an element of rejoice seems quite in keeping with his general mental disposition of outwardness while it is only natural for the shut-in, inward-oriented introvert to be critical of the apparently aimless rumpus frequently kicked off by the modern youth which robs him of the peace he seeks in his isolated and calm, fervent-free environ.

The study has led also to the finding that the high-anxious persons are relatively more favourably disposed toward youth activism than the low-anxious persons. The high-anxious person compared to low, is characterised by a higher drive level and in the restive activities of the youth he may be perceiving a fulfilment of his general activity-itch generated by the high drive level and this may account for his comparatively better love for youth activism. The high ambiguity- intolerant person, the study indicates, have a more favourable attitude towards youth activism than those low in ambiguity-intolerance A plausible explanation is that intolerance of ambiguity perhaps induces in the individual an anxiety to reconstruct his cognitions rapidly in a way that ambiguity is reduced. This perhaps leads to a quick, meaningful restructurisation of the stimulus-pattern. The ambiguity-intolerant person has thus lent himself to a cognitive reorganisation fitted to his basic inner organising principles and has read purpose and meaning in youth activism

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more readily than the ambiguity-tolerant individual so that the anxiety and stress caused by the ambiguous activism situation is reduced. The study thus led to the following conclusions :—

(i) The extraverts have a significantly more favourable attitude towards youth activism than the introverts.

(ii) The high-anxious persons have a significantly more favourable attitude towards youth activism than the low anxious persons.

(iii) The ambiguity-intolerant persons have a significantly more favourable attitude towards youth activism than the ambiguity-tolerant person.

(iv) Those high and those low in neuroticism do not differ significantly in their attitude towards youth activism.

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Personalization Among Males and Females

Sushma Washington and *Mukta Rani Rastogi**

The present study was designed to explore the sex differences in personalization ; the second stage of political socialization. The sample comprised of 480 males and females of class-II-XI from different schools of Lucknow. The percentage analysis, the SE of the percentage and the graphical representations of the data obtained on the self devised questionnaire bring forth the domianace of males over females, It is not only the knowledge of the authority figures outside home but also their identification and political representativeness which obtains greater accuracy in the responses of males than females, The P. M. and the President yield higher awareness than the C.M. and the Governor and similarly there is greater Preference and liking for Father and Teacher than inpersonal figures,of Judge and Supreme Court; more so in the case of females than-males.

INTRODUCTION

Socialization of the young comes through the interection between the child and the environment. The child is sensitive to the political condition of his environment ; he absorbs group values and attitudes, often unconscious (Lazar 1985). Children are considered to be in an impressionable age and the image they form, and the attitude they develop would persist affecting their future behaviour. They are citizons who are less involved in the stresses and strains generated by the modern complex society and therefore they are in a position to provide relatively an objective assessment of authority figures (Khan and Krishna 1986).

Easton and Donnis (1969) while postulating their theory of political socialization; included in its process the basic concept of political authority and the stages of political development influenced by this political authority. Politicization as the first stage reveals

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to the children the existance of authority above and beyond the family. This is followed by personalization where the individual political authority such as the President and Policeman continue to outshine the common man, thus enhancing an awareness of political authority. These authority figures when endowed with virtues of trustwerthiness, benevolence and helpfulness constitute the child's Idealization of the political authority (the third stage of development). Finally, the child learns to associate with depersonalized objects such as the Congress and Supreme Court, and gradually emphasizes Institutionalization (the fourth stage of political development).

Keeping in mind the valence that Easton and Dennis attach to personalization, one may infer its importance. It is only with the help of this process that the child interacts with the structure of authority in a manner most plausible and congenial to his emotional and mental capacities. It would not be an exaggeration to state that without the development of this stage, the child' s identification with the system is an incomplete knowledge.

In a country like India, we find the political are undergoing transformation dominated by the male stalwarts. Barring few exceptions, it is not only the ruling regime but also the ruled layman where we find ignorance as well as inactivation on the part of the females. Could it be the lack of identification with the political figures in males and females differently that speaks for the striking differences between the two 7 Little empirical evidences only and to the confusion and contradictory line of thought. In an attempt to answer this question, the present study has been undertaken.

Sample : A total sample of 480 males and females from different schools of Lucknow (Class II-XI) falling between the age range of 7-16 years was incorporated in the present study.

Tools : A 45 items questionnaire was developed with 19 items taken from Easton and Dennis's (1969) questionnaire and some new items being added to this as per the requirements keeping the indian political scone in the mind.

Analysis of Results—The method of analysis comprised of frequency and percentage analysis giving a graphical representation of the obtained results. Further, the SE of the percentage has been determined between males and females. The first four items deal with the names of the Prime Minister President of India. Chief Minister and Governor of Uttar Pradesh. Among the males and females, it is not only the males who exceed females in correct identification of the P. M. and the President 90%. 92%) as compared to 78 and 77% for females, but they also rightly place the G.M. and Governor

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of U. P. with higher accuracy as evident from their response percentage (85% and 79%). Difference between the two sexes on all four items are highly significant (·01)—Table I, Figure I).

Percentage of Correct Responses for Item VII-X According to sex and Its Graphical Representation (Table I & Figure I)

Item No-	Figures	F	M	SE of the %	p
VII	Prime Minister	78	90	5·3	.01
VIII	President	77	92	6·3	.01
IX	Chief Minister	72	85	5·5	.01
X	Governor	66	79	5·5	.01

The respondents were not only asked to identify the important political figures, but to report as to who countributes most in making the laws for countrymen and the two choices regarding those who work most for the government.

Percentage for Chosen Pairs for Item XIX According to Sex (Table II.) and Its Graphic Represenation (Figure II.)

S. No.	Pairs	F	M	SE of the %	p
1	President-Police	13	18	2·9	.05
2	Police-Soldier	8	14	3·1	.01
3	Soldier-Postman	1	4	2·3	.05
4	Father-Soldier	3	5	2·3	.05
5	Supreme Court-Judge	2	14	5·3	.01
6	President-Supreme Court	2	13	4·7	.01
7	Congress-President	7	6	1·3	—
8	Police-Judge	4	5	1·3	—
9	Police-Supreme Court	4	11	3·5	.01
10	President-Judge	6	6	0	—
11	Congress-Police	6	1	2·9	.05

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12	President-Soldier	4	0	3·6	.05
13	Father-Police	10	0	4·8	.01
14	Father-Postman	7	0	3·5	.01
15	Congress-Supreme Court	0	2	1·7	—
16	Soldier-Judge	8	0	3·9	.01
17	President-Postman	4	0	2·6	.05
18	Father-President	6	0	3·1	.01

An examination of the tables (Table II and Table III) shows that as males clearly debar the figures of President, Father, Soldier and Postman from law-making and representing the Govt. ; females give a lot of response to those figures. It is evident from the figures (Eigures II and III) that girls and boys do not hold similar view in evaluating the role of figures in polities. Significant differences between the two sexes have been obtained for various figures in a number of pairs.

Percentage for Chosen Pairs for Item XXIV According To Sex (Table-III.) and Its Graphic Representation (Figure III).

S. No.	Pairs	F	M	SE of the %	p
1	Teacher-Police	6	7	1.3	—
2	Soldier-Teacher	3	13	4·8	.01
3	Milkman-Postman	7	5	1.7	—
4	Soldier-Police	5	8	2.3	.05
5	President-Soldier	15	9	3·1	.01
6	Soldier-Postman	14	4	4.8	.01
7	Police-Postman	5	3	1·7	—
8	Soldier-Judge	3	6	2·3	.05
9	Judge-President	4	18	5·8	.01
10	Police-Judge	6	6	0	—

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11	Teacher-Postman	16	6	4.8	.01
12	President-Police	6	11	2·9	.05
13	Teacher-President	7	1	3·1	.01
14	President-Postman	0	1	1·3	–
15	President-Congrese	0	1	1·3	–
16	Judge-Teacher	0	1	1.3	–
17	Teacher-Milkman	3	0	2·3	.05

The next four items seem interrelated hence will be discussed together. The items inquire about two choices of the subjects in response to questions demanding information about the help a the individual and his family members receive from political figures the amount of knowledge Ss have for these political figures, and the individual authority figures when the Ss like most, or with whom they identify most. Since the authority figures denoted for each item are the same, we find a uniform trend existing in the obtained results. Both males and females perceive Father, Teacher, Postman and Policeman as the most important individual figures. However, males extend their liking and identification with Soldier, Judge and President also, more then females do as is visible in Tables IV, V, VI and VII.

Percentage For Chosen Pairs for Item XXV According to sex (Table IV) and its Graphic Representation (Figure IV).

S. No.	Pairs	F	M	SE of the %	P
1	Father-Teacher	31	28	2·3	.05
2	Father-Soldier	7	4	2·3	.05
3	Postman-Teacher	11	5	3·1	.01
4	Soldier-Pollce	11	6	2·9	0·5
5	Police-Father	9	18	4·1	·01
6	President-Father	3	16	5·5	·01
7	Police-Postman	4	2	1·7	–

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8	Soldier-Teacher	2	1	1·3	—
9	Judge-President	5	2	2·3	.05
10	Father-Postman	7	14	3·5	.05
11	Soldier-Postman	3	0	2·3	.05
12	Police-Teacher	1	0	1·3	—
13	Judge-Police	3	0	2·3	.05
14	Judge-Solider	3	0	2·3	.05
15	President-Police	0	10	4·8	.01
16	Teacher-President	0	4	2·6	.05

Percentage for chosen Pairs for item XXVI According to sex (Table V) and its Graphic Representation (Figure V.)

S. No.	Pairs	F	M	SE of the %	P
1	Father-Teacher	37	33	2·6	.05
2	Father-Postman	18	9	4·1	.01
3	Teacher-Postman	12	14	4·7	—
4	Police-Father	1	6	2·6	.01
5	Teacher-Police	10	1	4·1	.01
6	President-Judge	3	3	0	—
7	Soldier-Postman	0	3	2·3	.05
8	Soldier-Father	0	5	2·9	.05
9	Father-President	0	17	7·3	.31
10	President-Soldier	0	4	2·6	.35
11	Police-President	0	5	2·9	.05
12	Father-Judge	0	1	1·3	—

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13	Soldier-Teacher	5	0	2·9	.05
14	Police-Postman	4	0	2·6	·05
15	President-Postman	2	0	1·7	,05
16	Soldier-Police	6	0	3·1	.01
17	Police-Judge	2	0	1·7	—
18	Teacher-Judge	2	0	1·7	—
19	Soldier-Judge	2	0	1·7	—

Percentage for Chosen Pairs for Item XXVIII According to sex (Table VI.) and its Graphic Representation (Figure VI.)

S. No.	Pairs	F	M	SE of the %	P
1	Father-Teacher	22	19	2·3	.05
2	Father-Police	8	3	2·9	.05
3	Father-Soldier	6	9	2·3	.05
4	Soldier-Teacher	12	13	1·3	—
5	Postman-Police	7	4	2.3	.05
6	Soldier-Postman	3	1	1.7	—
7	Father-Postman	4	1	2·3	.05
8	Father-President	10	7	2·3	.05
9	President-Judge	9	14	2·9	.05
10	Soldier-Police	6	3	2·3	.05
11	Teacher-Police	3	3	0	—
12	President-Police	8	5	2·3	.05
13	President-Soldier	2	5	2·3	.05
14	Teacher-Judge	1	0	1·3	—

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15	Soldier-Judge	0	2	1·7	—
16	Father-Judge	0	3	2·3	.05
17	Police-Judge	0	3	2·3	.50

Percentage For Chosen parts for Item XXX According to sex (Table VII) and Its Graphic Representation (Figure VII)

S. No.	Pairs	F	M	SE of the %	P
1	Father-Teacher	34	26	3.9	.01
2	Father-Police	9	9	0	—
3	Soldier-Teacher	12	4	3.9	.01
4	Father-Soldier	7	15	3.9	.01
5	Father-President	12	26	6.7	.01
6	President-Police	5	12	3.5	.01
7	Soldier-President	2	2	0	—
8	Teacher-Police	4	0	2.6	.05
9	Soldier-Police	4	0	2.6	.05
10	Father-Judge	3	0	2.3	.05
11	Police-Judge	3	0	2.3	.05
12	President-Judge	0	2	2.6	.05

Further, the graphic representation of the data reveals a clearer picture of the significant differences obtained between the two sexes for each item.

DISCUSSION

The obtained sex differences can be attributed to the role that Indian society enforce upon males. Due to greater involvement of males in the political field, they have attained more correct responses regarding the recognition of the correct names of some of the authority figures holding office in the Indian Parliament. The P.M. and the President have yielded greater number of accurate answers due to their greater popularity and

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visibility on television and in other mass media avanues. The salience over the loss publicises figures of Chief Minister and the Governor might have brought them a higher percentage of recognition (Table I).

Knowledge, identification and liking for the authority figures yield consistent results with the first four items of greater awareness in males. Further, for both males and females Father and Teacher superimpose all other figures, suggesting a dominance of personal interaction and effective involvement over sex variances (Greensiton 1960). Females portray a greater liking for figures like Father, Teacher and Postman because they consider them more personal than the slightly impersonal and politicized figures of Police and President, whom males consider as better representatives of the government. Moreover, females seem to identify more with the figures existing in close environment while males Profor figures of remote environment, similar to the findings of Book (1982).

A similar trend exists in the items regarding information about the law-making and Government representations in the Indian political scone. A clearer perception of the more alion Supreme Court and Judge by males may also be explained as a result of their greater interaction, verbal communication, knowledge and probably greater visits to areas of political discussions and political talks, where they learn the actual importance of parliamentary position holders and their functions (Dunbar & Taylor '82). Females being more engrossed in domestic and sociotal bonds are unable to onrich their pre-existant knowledge for political figures.

Thus it can be said that the roots of political ignorance and inactivation in females can be traced down to the developmentel stage, where in to the knowledge of the authority figures outside home is added a personalized and affective perception. The role of females bestowed upon them by the society determines the awareness they should have about the world around them, Though it is slowly giving way to the education of the urban India, its roots lie deep buried in the hearts of the masses living in the rural India and the cultural heritage. The present study besides its interesting findings suggests the need to study the development of political socialization in India from the standpoint of the local and the variable of sex role typology.

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A Study of Learning Style Preferences of Senior Secondary Students in Relation to their Anxiety

B. P. Verma

The study investigated the learning style preferences of Senior secon dary students in relation to their anxiety. The main sample comprised 57 high anxious and 55 low anxious subjects. The results revealed that out of seven values of the Chi-square, only one value came out to be signfiicant, suggesting that anxiety and learning style preferences were partly related.

INTODUCTION

Learners in a given classroom may not vary only in the things they know and in their capabilities for learning, but also in the ways in which they approach and deal with a given task. These pervassive and stylistic patterns of the students learning expe-rience are known as 'learning styles'.

Several psychologists (Riessman, 1964 ; Dembo. 1977 ; Dunnand Dunn, 1978) have strong conviction regarding the potentials of learning styles for academic success. They hold that learning styles can make a significant difference in academic performance.

Realizing the Paramount significance of learning styles in the teaching-learning pro cesses, a number of researchers in western countries have conducted researeh on learning styles of students at different levels of education and attempted to explore their relationship with many socio-psychological variables. However, in India, it is a most neglected dom-ain of research. Only a few researchers (Aggarwal, 1982; 1983, Verma and Sharma, 1987) have shown some inition in this newly emerged are. In view of the bearth of studies on

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learning styles in india, the investigator thought it worthwile to investigate the learning style preferences of senior secondary students in relation to their anxiety. Seven hypotheses of independence were formulated in order to realize the objective of the study.

METHOD

The study was conducted through normative survey method of research.

Sample. The initial sample consisted of 210 subjects of 12 th grade, randomly selected from five senior Secondary schools of Delhi. The sample included subjects of both the sexes in equal number. However, the main sample comprised only 57 high anxious and 55 low anxious students. The students were classified into two extreme groups by using Truman L. Kelley (1939) dichotomy on anxiety scores.

Tools : The following tools were employed in the study :

(1) **Hindi State-Trait Anxiety Inventory** (STAI) : The anxiety of the subjects was assessed with the help of Hindi version of STAI devel oped by Spielberger, Sharma and Singh (1973). The Trait Anxiety scale of the Hindi STAI is comprised 20 items. The total socre on this scale represented the anxiety level of the subject. The cross-language equivalence, internal consistency, test-retest reliability, and concurrent validity of the Hindi STAI have been amply demonstrated in a series of studies. (Spielberger, *et al*, 1973).

(2) **Learning Style Inventory** (LSI) : For identifying learning style preferences of senior Secondary Students, learning style inventory (LSI), constructed and standardized by Agarwal (1983) was used. It consists of 63 items measuring fourteen learning styles. The test-retest reliability ranged from 0·841 to 0·921. For determining its validity, Objective validity was estimated. In addition to it, LSI was also got rated by five experts of repute on five point scale. In view of their ratings, validity of LSI was found to be satisfactory.

RESULTS

In order to ascertain the relationship between anxiety and learning style preferences, the technique of Chi-square was used. The technique was applied by preparing seven 2 X 2 contingency tables. The obtained values of Chi-square are presented in Table-1.

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Table-1 : Chi-square values showing the relationship of a aniety and learning style preferences of students at senior Secondary level

Learning Style	Low Anxious Student (N=55)	High Anxious Students (N=57)	Chi-square Value
Flexible	54	53	0.76
Non-flexible	1	4	
Individualistic	29	34	0.54
Non-individualistic	26	23	
Visual	44	45	0.019
Aural	11	12	
Field dependent	12	19	0.29
Field independent	43	38	
Short attention Span	35	36	0.0028
Long attention Span	20	21	
Motivation Centred	55	44	12.055**
Motivation Non-centred	0	13	
Environment Oriented	36	40	0.29
Enviroement Free	19	17	

**=Significant at 0.1 level.

Results of the table-1 show that out of seven obtained Chi-square values for learning style preferences of high and low anxious students, only one Value (12·055) came out to be significant, being greater than the critical value (6·64) at the ·01 level. Hence the null hypothesis of no association between anxiety and learning style preferences in this case was rejected. From this, we can therefore conclude that anxiety and learning style preference are significantly related.

A close perusal of the data of concerned contingency table indicate that althogh in both of the anxiety groups, students showed their preferences for motivation centred learning style over motivation non-centred learning style, the low anxious students appeared to have relatively more preferences for motivation centred learning style. However,

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in other six cases, the obtained Chi-square values were found to be less than the required values even at ·05 level of confidence. Thus the null hypotheses of independence were accepted. This suggested that anxiety and learning style preferences are not contingent upon each other. In view of the obtained values of seven Chi-squares, it may be concluded that anxiety and learning style preference are partly related.

DISCUSSION

The findings of the study suggest that anxiety and learning style preferences are contingent upon each other to some degree. Though there is no parallel study to the present one, the results of an Indian Study (Agrawal, 1982) seem to be similar. In this research, the investigator found that in both Public and Central Schools learners demonstrated their preferences for motivation centred learning style but percentage of students preferring motivation centred learning style in public school was significantly higher than that of central. He further found that students of public and central schools were not significantly different for their preferences over flexible vs. non-flexible, individualistic vs. non-individualistic, visual vs. aural, field depent vs. field independant, short attention span vs. long attention span, and environment oriented vs. environment free learning styles. Kagan, Moss and Sigel (1963) observed that individuals with non-analytical cognitive style tended to be more anxious and impulsive than those with analytical cognitive style. In a study, Chiu (1985) also reported that non-analytical children as a group scored significantly higher on the children's form of the Manifest Anxiety Scale than analytical children did.

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STATUS OF INDIAN RESEARCHES IN CREATIVITY

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A Study on Perception of Parent-Adolescent Relaionship by he Secondary School Students

Dr. SUSHILA SRIVASTAVA, AND SIVAGAMI SREERAMULU

The present investigation aims at studying the perception of parent adolescent relationship by the secondary school students with reference to age, sex, birth order and socio-economic status, religion and maternal employment. A questionnaire devised by Vanderweile (1980) *was used for the study, the sample comprised of* 480 *adolescents of both sexes and belonging to age group of* 10-17 *years from low, middle and high socio-economic groups. The results revealed significant influence of sex and socio-economic status on the parent, adolescent relationship. Birth order and religion were associated with parental affection and maternal praise, while maternal employment has no effect on parental affection.*

Although all human relationships are unique, those existing between parents and child possess chracteristics that explains the tremendous and permanent impact of one upon the other. The intimacy and intensity of contact and the everyday interaction and interchange exist in an emotionally charged atmosphere. A child serves as a mirror to the parent, who sees reflected there, his own unresolved and frequently long term conflicts and his own needs and aspirations (Johnson & Medinnus, 1969).

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** Type of discipline received from the father and mother.

*** Degree of praise received from their parents.

**** Degree to which parents express affection.

***** Degree to which the adolescent feels free to talk with his parents about his problems.

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It is widely known that critical developmental stages in the child elicit in the parents certain reactions that, while universal, take on a psychic content and affective quality, both of which can be traced in the parental life histories. The vicssitudes of parents drive and ego development are reflected in their interaction with their children especially at critical developmental stages, of which puberty is unquestionably a major one (Blos, 1970).

The home is the focal point of the adolescents enforced role as a child. The home is important as it transmits and interprets culture to him moulds his personailty, offers him security and affection, it is central in promoting his maturity and determining his future adjustment as an adult. Parent-child relationships vary within these homes in corresponding fashions and the observable effect of such homes on their adolescent members differs widely. Neither attitude towards parents, nor attitudes towards siblings can therefore be interpreted in the relatively simple fashion which was acceptable 30 or 40 years age.

The purpose of this study is to investigate the Perceptions of secondary school students in the aspects of parent-adolescent relationships.

It also aims to study the perception of parent-adolescent relationships by the secondary school students, with reference to sex, age, birth-order, socio-economic status religion and maternal employments.

Method and Materials

Sample : The samples were selected at random from five different schools in the city of Madras. The sample consisted of 240 adolescent boys (60 each in VI, VII, VIII and IX grades) and 240 girls (60 each in VI, VII, VIII and IX grades) belonging to the age groups of 10-17 yars and from different socio-economic groups.

Instruments used in the Study : A questionnaires devised by Vanderweile (1967) wae used to investigate the perception of parent-adolescent relationships by the secondary school students. The questionnaire has four questions and to open questions. The questions have three alternatives each and the subjects are requested to respond by ticking the suitable alternative. The are to give three answers to the open questions. The socio-economic status of the subjects were measured utilising Kuppusamy's (1962) Socio-Economic status scale.

To test instruments applicability to the selected group, a pilot study was conducted on a simple of 20 boys and 20 girls. It was found that these instruments were suitable to this group as they could understand all the questions. The questionnaires were distributed to the subjects and they were requested to fill in the particulars required of them on the individual data and then answer the questions.

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RESULTS AND DISCUSSION

1. **The Effect of age on Parent—Adolescent reletionship** :—The Table-I (a) shows the Chi-squere test for Questions No. I, that is "Which of your parents is the most severe ? (a) mother, (b) father, (c) just alike".

Tab'e-I (a) Chi-square test for association between Age and Parental severity.

sample size	df	Table value of Chi-square for 14 df	calculated Chi-square
480	14	23·68	24·1*

*Significant at 5% level.

The chi-square test for Question No. 2. "Does your mother praise you ? (a) a great deal, (b) at times, (c) hardly ever" is shown in Table No. I (b).

Table-I (b) Chi-square test for association between age and frequency of materal Praise.

Sample size	df	Table value of Chi-square for 14 df,	Calculated Chi-square
480	14	23 68	24·52

* Significant at 5% level.

Table-I (c) shows the chi-square test for Question No. 3 "who has more affection for you ? (a) mother, (b) father, (c) equal affection".

Table-I (c) Chi-square test for association between age and Parental Affection.

Sample size	df	Table value of Chi-square for 14 df.	Calcuiated Chi-square
480	14	23·68	14·98 (NS)

Note :—NS=Significant.

The results for the chi-square test for Question No. 4 "whom are you more prone to tell your problems to ? (a) mother, (b) father, (c) just alike" are shown in Table No. I (d).

Table-I (d) Chi-square test for association between Age and Parents as conifidents.

Simple size	df	Table value of Chi-square for 14 df.	Calculated Chi-square
480	14	23·68	13·18 (NS)

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The significance of the calculated chi-square value at 5% level, as seen in Table-I a, b show that there is an association between age and parental severity and age and maternal parise. Table Ic and d however, show that there is no significant relationship between age and parental affection and age and parents as confidants. Vanderweile (1980) has investigated that age has no effect on parent-adolescent relationship.

2. **The effect of Sex on Parent-adolescent relationship**—In order to find the association between sex and parent-adolescent relations, chisquare test was calculated for each of the questions, taking the frequencies of the responses of the subjects into consideration.

The chi-square test for Question No. I, that is, "which of your parents is the most severe ? (a) mother, (b) father, (c) just alike" is shown in Table No. II (a).

Table-II (a) Chi-square test for association between sex of the adolescent and parental severity.

Simple size	df	Table value of Chi-square for 3 df.	Calculated Chi-square
480	2	5·99	15·6*

* Significant at 5% level.

The summary of the chi-square test for Question No. 2, "Does your mother Praise you ? (a) a great deal, (b) at times, (c) hardly ever is shown in Table No. II (b).

Table-II (b) Chi-square test for association between Sex and Frequency of maternal praise.

Sample size	df	Table value of Chi-squar for 2 df	Calculated Chi-square
480	2	5·99	26·26*

* Significant at 5% level.

Table-II (c) shows the summary of the chisquare test for Question 3, "Who has more affection for you ? (a) mother, (b) father, (c) equal affection.

Table-II (c) Chi-square test for association between sex and parental affection.

Sample size	df	Table value of Chi-square for 2 df	Calculated Chi-square
480	2	5·99	9·29

* Significant at 5% level.

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Table-II (d) gives the chi-square test for Question No. 4. that is "whom are you more prone to tell your problems to ?" (a) mother, (b) father, (c) just alike.

Table-II (d) Chi-square test for association between sex and parents as confidens

Sample size	df	Table value of Chi-square for 2 df	Calculated Chi-square
480	2	5·99	30·4*

* Significant at 5% level.

Form Tables II a, b, c, and d, it is seen that the calculated value of chisquare are higher than the table values in each at 5% level. Hence, it can be concluded that sex has a bearing on parent-adolescent relationship.

The present findings are in line with those reported by Snock *et al* (1954) and Vanderweile (980). They say that females, as compared with males, often report their fathers to be more affectionate and praising than mothers.

3, **The effect of the birth order on parent-adolescent relationship**—The subjects have been classified into 8 orders of birth, as per information given by them in the questionnaire. The distribution of the samples according to the ordinal position is given below :

Table-III Distribution of the subjects according to their ordinal position.

Ordinal	No. of Subjects
First-born	146
Second-born	153
Third-born	77
Fourth-born	83
Fifth-born	38
Sixth-born	22
Seventh-born	6
Eight-born	5

Table-IV (a) gives the summary of the chi-square test forQuestion 1. who is morel severe ? (a) mother, (b) father, (c) just alike.

Table-IV (a) Chi-square test for association between birth-order and parenta severity.

Sample size	df	Table value of Chi-square for 14 df	Calculated Chi-square
480	14	23 68	31·65*

* Significant at 5% level.

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The summary of the chi-square test for Question N. 2. that is, "Does your mother praise youe ?" (a) great deal, (b) at times. (c) hardly ever is shown in Table No. IV (c).

Table-IV (b) Chi-square Test for Association Between Birth Order And Materna Praise.

Sample Size	df	Table of Chi-square for 14 df	Calculated Chi-square
480	14	23.68	38.82*

*Significant at 5% level

The chi-square test for questlon No.3, "who has more affection for you ?(a) mother (b) father (c) equal affection" is shown in Table IV (c).

Table-IV (c) Chi-square Test for Association Between Birth Order And Parental Affection.

Sample size	df	Table value of Chi-square for 14 df	Calculated Chi-square
480	14	23.68	24.86

*Significant at 5% level.

The chi-square that test for Question No.4 "whom are you more prone to tell your problems to ? (a) mother (father (c) just alike" is shown in Table IV (d).

Table No. IV (d) Chi-square Test for Association Between Birth Order And Parents as Confidants

Sample size	df	Table value of Chi-square for 14 df	Calculated Chi-square
480	14	23.68	12·16 (NS)

The calculated chi-square values are significant in the case of Tables IV, a, b and c, proving that birth order has an effect on the parental severity, maternal praise and parental affection, but, Tables IV d shows that adolescent's birth order is not in relation with parents as confidants, as the calculated chi-square value is insignificant.

Lasko (1954) cited by Horrocks (1962) reported that the mothers are less warm emotionally, and are more restrictive and coercive toward the first child than toward the second, According to Horrocks (1962) the ordinal position of the child may become a factor in parental overindulgence. These two studies are in accordance with the present findings.

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4. The Effect of Socio-Economic Status on Parent-Adolescent Relationships :

The socio-economic status of the subjects was calculated with Kuppuswamy's (1962) Socio-economic status scoring. The mean and the standard deviation of the subjects' individual scores were calculated. The subjects who obtainen soores, above the vaule-mean 1 SD were considered to be belonging to high income group : those scores fell below the value-mean I SD were assumed to the middle income group.

The distribution of the subjects in the social classes is given below.

Table-V

Socio-economic classes	No. of Subjects
Low	108
Middle	239
High	133

Table No. VI (a) shows the chi-square test for question No. I, that is "which of your parents is the most severe ? (a) mother (b) father (c) just alike".

Table-VI (a) Chi-square test for influence of socio-economic status on parental severity.

Sample size	df	Table value of Chi-square for 2 df	Calculated Chi-square
480	2	5·99	40·91

* Significant at 5% level.

Table No. VI (b) shows the chisquare test for qusetion No. 2, "Does your mother praise you (a) a great deal (b) at times (c) hardly ever".

Table-VI (b) Chi-square test for influence of socio-economic status of parent-adolescent relationship.

Sample size	df	Table value of Chi-square for 2 df	Calculated Chi-square
480	2	5·99	67·9*

* Significant at 5% level.

The chi-square test for the Question "Who has more affection for you ? (a) mother (b) father (c) equal affection is shown is in Table No. VI (c).

Table-VI (c) Chi-square test for influence of socio-economic status on parental affection.

Sample size	df	Table value of Chi-square for 2 df	Calculated Chi-square
480	2	5·99	24·05

* Significant at 5% level.

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Table-VI (d) shaws the chi-square test for the question "Whom are you more prove to tell your problems to ? (a) mother (b) father (c) just alike".

Table-VI (d) Chi-square test for influence of socio-economic status on parents as confidents.

Sample size	df	Table value of Chi-square for 2 df	Calulated Chi-square
480	2	5·99	26·42

* Significant at 5% level.

Table-VI a, b, c and d show that the calculated chisquare values are much higher than the table values. Therefore, there is association between socio-economic status and parent-adolesent relationship.

This investigation is confirming with Vanderweile's (1980) findings that poor fathers treated their adolescents more severely than the well-to-do fathers. The adolescents from rich families felt that their father were more affectionate than the ones from poor families.

5. **The effect of Religion on Parent-adolescent relationship**—The subjects belonged to 8 different religions and their distribution is as follows :—

Table-VII Distribution of the subjects in accordance with the religions.

Religions	*No. of Subjects*
Hindus	423
Muslims	12
Christians	40
Parsi	1
Jains	3
Sikh	1

The chi-square test for Question I, "Which of your parents is the most severe ? (a) mother, (b) father, (c) just alike" is shown in Table VIII (a).

Table-VIII (a) Chi-square test for association of religion and parental severity.

Sample size	df	Table value of Chi-square for 10 df	Calculated Chi-square
480	10	18·3	14·58*

* Significant at 5% level

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Table No. VIII (b) shows the chi-square test for the Question "Does your mother praise you? (a) a great deal (b) at times (c) hardly ever".

Table No. VIII (B) Chi-square Test for Association of Religion and Maternal Praise

Sample size	df	Table value of Chi-quare for 10 df	Calculated Chi-quare
480	10	18.3	5·19 (NS)

Table No. VIII (c) shows the chi-square test for question No. 3 "who has more affection for you ? (a) mother, (b) father, (c) equal affection.

Table No. VIII (c) Chi-square Tast For Association of Religion and Parentanl Affection.

Sample size	df	Table value of Chi-quare for 10 df	Calculated Chi-quare
480	10	18.3	20.74*

* Significant at 5% level.

The chi-square test for question No.4 "whom are you more prove to tell your problems to ? (a) mother, (b) father, (c) just alike" is shown in Table No. VIII (d)

Table No. VIII (d) Chisquare Test For Association of Parents As Confidants

Sample size	df	Table value of Chi-quare for 10 df	Calculated Chi-quare
480	10	18.3	12·43*

*Significant at 5% level.

From the above tables, only Table VIII (c) show the calculated chi-square value to be significant. It can be then concluded that there is association between religion and [2]parental affection. This is supported by Vanderweile's (1980) findings that the Christian adolescents feel thier mothers to be more affectionate than the muslim adolescents. Table VIII a, b, c, and d, however prove that there is no relation between parental severity, maternal praise and parents as confidants.

6. The Effect of Maternal Employment on Parent-Adolescent Relationship :

It was found that the mothers of 65 fubjects were employed. The chi-square test for the effect of maternal employment on parent-adolescent relations is shown below. The chi-square test for question No. 1 "which of your parents is the most severe ? (a) mother, (b) father, (c) just alike" is shown in Table No. IX (a).

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Table-IX (a) Chi-square test for influence of maternal employment on parental severity

Sample size	df	Table value of Chi-square for 2 df	Calculated Chi-square
480	2	5.99	1.88*

* Significant at 5% level.

Table IX (b) gives the chi-square test for question No. 2 "Does your mother praise you (a) a great deal (b) at times (c) hardly ever".

Table-IX (b) Chi-square Test for Influence of Maternal Empoyment on Frequency of maternal Praise

Sample size	df.	Table value of Chi-square for 2 df	Calculated Chi-square
480	2	5.99	9.57

*Significant at 5% level.

Table-IX (c) expresents the chi-square test for question No. 3 "who has more affection for you? (a) mother (b father (c) equal affection.

Table-IX (c) Chi-square Values for Influence of Maternal Employment on Parental Affection.

Sample size	df	Table value of Chi-square for 2 df	Calculated Chi-square
480	2	5.99	13.45

*Significant at 5% level

Table IX (d) presents the chisquare test for question No.4, "whom are you more prone to tell your problems to? (a(mother, (b) father, (c) just alike".

Table-IX (d) Chi-square Tast for Influence of Maternal Employment on Parental as Confidants.

Sample size	df	Table value of Chi-square for 2 df	Calculated Chi-square
480	2	5.99	7·36 *

* Significant at 5% level.

As the calculated chi-square of Table IX a is not significant, there is no influence of maternal employment on parental affection. But the other tables, IX b, c, and d, show that there is association between maternal employment and parent-adolescent relations. The latter findings are in line with Nye's (1952) investigation he has pointed out that there is better parent-adolescent in homes where the mother are employed full-time, than in homes where they go for part-time jobs or are unemployed.

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Ph. D. THESIS ABSTRACT

Shyness : A Socio-Psychological Analysis

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Shyness has been regarded as a learned tendency to avoid social situation and to fail to participate appropriately in several encounters to feel anxious and uncomfortable during interactions with others and to lack confidence in one's self worth (Zimbardo, 1977). It is a universal phenomenon. It spreads across the length and breadth of human nature. It is a secret trait which is shared by a large number of people. Silence, blushing embarrassment, self-consciousness etc. are some of its manifestations. Obviously it creates social problems and generates negative symptoms. Therefore, it may be considered to be a great personal, private and painful psychic predicament. Although in Western society a number of studies have explored the dynamics of shyness, unfortunately in the Indian context no such attempt has been made. Moreover, the findings so obtained in Western culture may or may not be applicable to our culture due to variations in sampling, tools and methodology.

Objecttves of the Study : The present study was undertaken to develop a suitable scale for measuring the level of shyness among college students, to examine the impact of demographic attributes (sex, age, inhabitation, marital status, sibling position, caste, religion, nature of family, father's education, father' soccupation and father's income) on shyness, and to explore the role of psychological factors (anxiety, security-insecurity, extraversion, neuroticism, psychoticism and dependence proneness) on shyness among the subjects.

Hypotheses : The following hypotheses were formulated for empirical verification :

1. Subjects scoring high on the Shyness Scale would be more anxious than those scoring low in this scale.
2. Shy persons would be more insecure as compared to non-shy persons.
3. Shy persons would be less extraverted than non-shy persons.
4. Shy persons would show more neuortic disposition as compared to non-shy persons.

* Ph.D. Degree awarded by the Magadh University, Both-Gaya, Bihar (India) in October 1986, under the supervision of Dr. K. P. Krishna, Professer, Post- Graduate Centre of Psychology, Gaya College, Gaya (Bihar).

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5. Shy persons would show more psychotic disposition as compared to non-shy persons.
6. Shy persons would show more dependence than non-shy persons.

Besides these hypotheses, it was also proposed to examine the contributions of some of the socialogical variables like sex, age, inhabitation, marital status, sibling position, caste, religion, nature of family, father's education, father's occupation and father's income on shyness.

Sample : The study was conducted on a multi-sample of colleges youths. The samples were drawn from four colleges located at Gaya. The subjects ranged in age from 16 to 22 years. Altogether 670 undergraduates (both male and female) were approached in classroom situation for different stages like item analysis *vis a vis* item selection (N=370), estimation of temporal stability and internal consistency (N=100) and estimation of validity as well as exploration of the socio-psychological correlates of shyness (N=200).

Tests and Materials : The tests and materials used were :

(i) *Personal Data Schedule* for eliciting information with regard to personal characteristics of the subjects ;

(ii) A self-develop *Shyness Scale* ;

(iii) Sinha and Krishna's (1971) *Comprehensive Test of Anxiety* ;

(iv) Maslow's (1952) *Security-Insecurity Inventory* ;

(v) *Eysenck Personality Questionaire*, developed by Eysenck and Eysenck (1975 and

(vi) *Dependence Proneness Scale*, developed by Sinha (1968).

In order to make the test items more intelligible to subjects who had limited language proficiency in English, the Hindi version of the standarized tests were used.

Findings : The findings concerning sociological factors were as follows :

1. Females scored significantly higher on the Shyness Scale than males, indicating more shyness among the female group.
2. Relationship between age and shyness for the female sample was found to be significant ($r = -\cdot 24$) whereas it was found to be insignificant ($r = -\cdot 007$) for the male sample.
3. Rural-urban inhabitants among males and females were statistically compared in terms of thhre shyness scores. The values of Chi-square (Chi-square=1·89, males ; 0·17, females) were found to be insignificant.
4. To ascertain whether married and unmarried males and females differ in trems of their shyness scores, the Chi-square technique was implied and the values so obtained were found to discouraging (Chi-square=·0750, males ; 0·2219, females).

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5. First born, second born and later born youths among males and females were compared in terms of their shyness scores and the values of Chi-square (Chi-square = ·47, males ; 3·08, (females) were to be insignificant.

6. Whether respondents belonging to forward caste, backward Caste and others differ in terms of their shyness scores. The Chi-square technique was used and both the values (Chi-square=8·58, males ; 5·52, females) were statistically insignificant.

7. Subjects from different religions had been cross-tabulated against shyness scores and it was revealed that the contribution of religion to shyness was not substantial (Chi square=·023, males ; ·05, females).

8. The frequencies of the high and the low scores on the Shyness Scale among males and females were cross-tabulated against their nature of families (joint and nuclear). The values of Chi-square were found to be statistically insignificant (Chi-square=0·0159, males ; 0·0049, females).

9. The impact of father's education on growth and development of shyness in their wards was examined statistically and the values of Chi-square (Chi-square x^2=0·97 males ,· 1·52 ,· females) were found to be insignificant.

10. The impact of father's occupation on shyness in their wards was examined and the values of Chi-square (Chi-square=0·80) for males was found to be insignificant and for females (Chi-square=6·80) it was found to be statistically significant.

11. The impact of father's income on shyness in the wards was ascertained and the values of Chi-square for both males (Chi-square=4·53) and females (Chi-square=0·77) were not significant enough to over rule chance.

The analysis of data with regard to sociological factors reveal that the contributions of sex, age and father's occupations are more or less revealing, whereas other sociological variables, such as inhabitaion, marital status, sibling position, caste, religion, nature of family, father's education and father's income were not relevant to the development of shyness among youths.

The findings with regard to psychological factors were as under :

1. Males scored significantly higher on extraversion and psychoticism dimensions than females. Although males scored higher on anxiety, security-insecurity, neurotism and dependence proneness than females, the mean differences were found to be statistically insignificant.

2. Anxiety differentiated the high and the low scores on the Shyness Scale among males and females. The main effect of sex, the main effect of groups and the

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interaction effect were found to be statistically significant. As expected, the high scorers on Shyness Scale among both the sexes have scored significantly higher on anxiety than the low scorers. Shyness tended to have a significant and positive association with anxiety.

3. Security-Insecurity differentiated significantly the high from the low group. However, the main effect of sex and the interaction between sex and groups were statistically insignificant. As expected, the high scorers on Shyness Scale among males and females scored significantly higher on S-I Inventory than the low scorers exhibiting more insecurity among high-shy males and high-shy females. Further, shyness bore a significant and positive association with security-inscurity trait.

4. The low scorers on the Shyness Scale among males and females scored significantly higher on introversion-extraversion trait than the high scorers, showing comparatively more introversion among high-shy groups. This is also substantiated by the ANOVA result. Out of three effects, only the main effect of groups was found to be statistically significant. This is further strengthened by significant and negative association between shyness and extraversion.

5. The high scorers on the Shyness Scale among males and females scored significantly high on the Neuroticism scale than the low scorers. The main effect of groups was found to be statistically significant and positive association with the neuroticism dimension.

6. The high-shy males scored significantly higher on the Psychoticism Scale than low-shy females, Although high-shy females scored higher on the Psychoticism Scale than low-shy females, the difference between the two means was fonnd to be statistically insignificant. The main effect of sex and the interaction effect were found to be significant beyond chance. Further, shyness tended to bear a significant and positive association with Psychoticism.

7. Dependence proneness did not present a systematic trend. Data after being subjected to statistical techniques like two-way ANOVA, *t*-test and Pearsonian *r*, the two variables shyness and dependenee proneness—were found to be independent of each other.

Thus, the findings with regard to anxiety, security-insecurity, extraversion and neuroticism dimensions were found to be the hypothesized direction. In case of other variables, psychoticism and dependence proneness, hypotheses have been contradicted.

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CONCLUSIONS

The following conclusions can be drawn from the present stody :

1. Female students in general are more shy than male students.
2. As the age increases in females, the shyness inclines to decrease. Conversely more shyness is found in teen-age.
3. The father's occupation contributes significantly to the development of shyness among females. Daughters of the salaried classes were found to be more shy than those of the non-salaried classes.
4. The sociological factors like inhabitation, marital status, sibling position, caste, religion, nature of family, father's education and income have not any significant impact on the development of shyness among college youths.
5. Shy persons in general have more anxiety, security, introversion, neuroticism and psychoticism.

To conclude, some of the sociological and psychological factors as used in the present study are more relevant in understanding the socio-psychological dynamics of shy youths. However, further studies covering dimensions like adjustment, child-rearing practices, cognition etc. are needed. Some multi-dimensional tests also need to be used to examine the personality and motivational determinants of shyness.

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Determinants of Sociometric Choices Among Adolescent Girls

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Psychological variables that are associated with popularity and rejection are studied. Sixteen different Psychological variables were reliably measured on 112 adolescent girls. Results showed that high scores on popularity tend to be assertive, protective have a higher strength of super-ego and are more concerned with the self concept, whereas high scorers on political value and those interested in romantic literature and courting behaviour, tend to be neglected by their peers.

It is beyond doubt that social interaction is a basic feature of life because human existence is essentially interdependent. Not only does physical survival often depend upon others, but the individuals identity is based upon relating to certain others. Recently there have been a number of studies in, an attempt to locate factors which make people acceptable to one another. Generally the following studies have found trends indicating the relationship of sociometric choices with intelligence (Heber, 1956 ; Sharma, 1975 ; Chatterjee, 1979), anxiety (Upmanyu, 1974 , Vasudeva and Verma, 1974), and neuroticism (Thorpe 1955 ; Arora, 1975). However, no attempt has been made to study the relation between motive, values and sociometric choices.

The present study is a step in this direction. Its main purpose is to explore the values and motive patterns of adolescent girls with differntial sociometric choices.

METHOD

112 adolescent girls students comprised the sample for study. The were administered :

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(a) An Indian adaptation of the Cattell's School Motivation Analysis Test (Singh, 1975) which attempts to measure 10 psychologically meaningful unitary motivational systems, covering a person's interests, drives and the strength of his sentiment and value system. Out of these 10 dynamic dimensions, 5 are 'ergs' (Fear, Narcism, Mating, pugnacity, Assertiveness) and 5 are sentiments (School sentiment, Home, Super-ego, Self concept and protectiveness.

(b) *Hindi Adaptati on of Study of Values* (Kulshrestha, 1971) which contains six scales measuring Theoretical, Economic, Aesthetic, Social, Political and Religious values.

(c) *Sociomeiric Rating Scale* was used for measuring sociometric status. The sociometric criterion employed in this study was 'sitting in the classroom.' The subjects are asked to rate each of the student from the group to which she belongs, on the five points of the scale. The five points of the scale ranged from:

(i) I would always like to sit next to her in the classroom.
(ii) I would sometimes like to sit next to her in the classroom.
(iii) My sitting with her makes no difference to me.
(iv) I would not like to sit next to her ; and
(v) I would not like at all to sit next to her in the classsroom.

For the purpose of scoring, the choices of the students were scored on a continuum ranging from 5 to 1. All other tests were administered and scored according to the standard instructions as given in the respective manual.

RESULTS AND DISCUSSION

Reliability : The reliability coefficients of School Motivational Analysis Test and Study of Values were obtained by the split—half method. judged by the conventional standards the reliability coefficients were guite satisfactory.

Comparison of Populars and Rejectees : Univariate two tailed t—tests were carried out to establish significance of differences between populars and rejectees. As shown in Table 1. populars scored higher than the rejectees on Assertiveness. 'Protectiveness. Super-ego and Self concept. Rejectees on their part scored Higher than populars on Mating drive and political value. In other words as compared with rejectees. populars of this sample would appear to be more assertive. protective, have more strength of development of conscience and also have a higher level of concern about self concept social repute and more remote standards. on the other hand, the rejectees are dominated by political interests and are more interested in romantic literature and courting behavior.

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Table-I : Means and Standard Deviations of Motives and Values of the Populars and Rejectees Along with Statistical Significance of Difference between Means.

Variables	*Populars* (N=56)		*Rajectees* (N=56)		t-test
	Mean	SD	Mean	SD	
Assertiveness (As)	22·45	3·60	20·32	2·78	3·73*
Mating (Ma)	13·43	8·14	15·89	3·91	2·05**
Fear (Fr)	14·66	3·41	14·60	3·53	·091
Narcism (Na)	16·95	2·99	17·39	3·40	·557
Pugnacity (Pg)	18·02	2·99	17·50	4·55	·707
Protectivences (Pro)	21·25	2·03	20·00	3·21	2·44**
School Sentiment (SS)	21·41	4·44	20·48	3·56	1·22
Super ego (SE)	23·69	2·98	22·66	2·96	1·82***
Self concept (SC)	21·02	2·88	20·09	2·16	1·94***
Home (Ho)	17·88	3·78	18·11	3·46	·335
Theoretical (Th)	42·11	8·30	42·23	5·86	·087
Economic (Eco)	36·66	4·67	38·11	6·08	1·40
Aesthetic (Aes)	35·04	6·72	35·37	6·56	·261
Social (Soc)	44·00	5·95	43·67	6·23	·284
Political (Pol)	39·61	4·45	42·98	6·44	3·20*
Religious (Rel)	43·14	5·80	42·44	5·74	·636

* Values significant at ·01 level,

** Values significant at 05 level,

*** Value significant at ·10 level.

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Vocational Aspirations of Arts and Science Students in Relation to Socio-Economic Status

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The present study aims at finding out vocational aspirations of students of different socio-economic classes. SES scale by Gynendra Shrivastava was used for measuring socio-economic status. Aspiration scale was prepared by the investigators. The analysis was performed by getting the mean values, rank order and computing "t" ratios. The comparison of extreme socio-economic groups showed differences in vocational aspirations for competitive, artistic, protective, teaching, engineering and medicine. On the whole the most aspired vocations are artistic, protective and teaching whereas the least aspired vocations are skilled, agriculture and scientific.

INTRODUCTION

Several empirical studies have shown the relationship of educational and vocational aspirations and measures of socio-economic status. Aspirations refers to the level education/occupation to which a person aspires. The research of status attainment theorists (Blau and Duncan, 1967; Sewell and Hauser, 1975) and more recently studies reviewed by Gottfredson (1981) provided evidences for the influence of background and environmental variables on education and occupational aspiration level. Gottfredson (1981) found that the lower class persons had more limiting factors as compared with middle and upper class persons.

Kohn (1963) observed that there is intricate interplay of the variables creating different basic conditions of life at different levels of social order. Cohen (1959) suggested that significant difference in motivation is found among children of working class parents who have been close on the job association with people of higher status. Reismann (1953) aimed at determining relationship between class and aspirations, and

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found that important aspects of individuals value system were his reference group and certain life orientations. Hayman (1953) established that there is strong tendency for upper class people to choose occupations for congeniality to a person. The choices of lower class people indicated much more interest in economic benefits of the occupations. Passi (1967) reported that background and sex are significant factors influencing vocational aspirations. Berman (1972) established that ethnic group membership was a factor in determination of occupational aspirations. Brook and Whitman's (1974) findings confirmed the studies of Berman (1972). Empey's (1956) findings also suggest differences in the aspirations for occupations at different status levels. Miller and Haller (1964) found correlation of 0·37 between socio-economic status of a family occupational aspirations of a respondent. Gribbson and Lohnes (1964) observed moderate correlation of ·05 for 8th and 10th grade subject between readiness for vocational planning and socio-economic status. Calvin (1969) studied occupational aspirations of youth in Mississippi and concluded that excepting Negro students of low socio-economic status all had relatively high occupational asp irations. Tseng (1971) concluded that subjects from lower socio-economic groups had significantly lower occuptional and more distorted occupational heirarchy than the subjects from the middle class. Ahlawat's (1971) findings are that higher socio-economic status group is more concentrated in higher jobs while lower socio-economic groups is more concentrated in lower jobs. Brook and Whitman (1974) concluded that socio-economic status and occupational aspirations were quite related.

Career motivation refers to the extent to which a person sees involvement in a career as central to his or her adult role (Super, 1980). Dollivers (1969) comprehensive review validated that college students whose occupational choices fit their interest likely to implement their choices. There are however some studies with some what different results also. Lockwood (1958) pointed out/that socio-economic status the family is unrelated to students level of realistic appraisal of vocational preferences. Osugi (1967) and Forde (1977) observed that socio-economic status of students had little influence on the level of vocational aspirations. Martin (1971) established that there exists the relaiionship between socio-economic status and occupational prestige aspirations.

Hypothesis—Following hypothesis were developed for verification—

(i) Vocational aspirations of high socio-economic subjects will differ significantly from that of low socio-economic subjects.

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(ii) Vocational aspirations of science and art students belonging to different socio-economic status will be different.

Sample : One hundred forty students studying in class XI of various college of Chandigarh were selected randomly. They range in age from 14 to 17 years.

Material : The instrument employed to measure socio-economic status was "Socio-Economic Scale" developed and standardized by Gynendra Shrivastava.

Vocational Aspiration Rating Scale was constructed by the authors. There were 50 occupations classified into 10 categories such as medicine, engineering. teaching, artistic, competitive services, protective, semi-skilled, agriculture and scientific. The specializations included under different categories referred to above areas follows :

Table I : Table showing the mean scores and "t" Values of students of high and low socio-economic status with regard to 10 variables of vocational aspirations.

S. N.	Occupational Aspirations	Mean High SES	Rank order	Mean Low SES	Rank Order	"t" Ratios	Level of Significance
1.	Medicine	12·736	6	8·894	7	2·331	X
2.	Engineering	15·289	5	11·552	5	2·624	X
3.	Teaching	18·131	4	14·921	3	2·835	XX
4.	Artistic	20·105	1	15·763	1	2·828	XX
5.	Competitive Services	19·421	3	13·342	4	4·243	XX
6.	Protective Services	19·842	2	15·500	2	2·886	XX
7.	Semi-skilled	9·421	8	8·315	8·5	1·832	NS
8.	Agriculture	8·710	9	8·315	8·5	0·338	NS

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9.	Commercial	10.921	7	11.342	6	0.252	NS
10.	Scientific	6.973	10	5.921	10	0.886	NS

X Significant at 0·05 level XX, Significant at 0·01 level, NS Non-Significant.

In the Table-1 Vocational aspirations of high socio -economic status (SES) group arranged on the basis of priority are as follows : Artistic 1, Protective Services 2., Competitive Services, 3. Teaching, 4. Engineering, 5. Medicine, 6. Commercial, 7. Semi-skilled, 8. Agriculture, 9, Scientific, 10, In low socio-economic status (SES) group vocational aspirations arranged on the basis of priority are as fellows :

Artistic 1, Protective Services 2, Teaching 3, Competitive Services 4, Engineering 5. Commercial 6. Medicine 7. Semi-sksIled 8·5, Agriculture 8·5, Scientific 10.

It can be inferred from above data that most aspired vocations in both high and low socio-economic status are Artistic, Protective Services, Competitive Services teaching and Engineering, "t" values of all the Variables between high and low socio-economic status point out that there exists a significant difference at .01 level between the groups of high and low socio-economic status with regard to Artistic, Competitive Services, Protective Services and Teaching. In Medicine and Engineering the difference between high and low socio-economic status groups are significant only at 0.05 level. in rest of the categories the differences of scores between the two groups are non-significant.

Table-2 Table showing the mean score of Science Students of high and low socio-economic status (SES) with respect to ten variables of Vocational aspiratios (N=38).

High SES=19; Low SES=19 ; Mean of high SES=36.00; Mean of low SES=19·894.

S. No.	Variables	Mean Scores High SES	Rank Order	Mean Scores Low SES	Rank Order	"t" Ratios	Level of Significance
1.	Medicine	18·052	2	12·315	3	2·699	X
2.	Engineering	19·368	1	15·789	1	2 080	XX

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3.	Teaching	15·526	5	11·000	6	4·645	XX
4.	Artistic	17·789	3	I2·000	4	3·700	XX
5.	Competitive Services	15·421	6	11·631	5	3·058	XX
6.	Protective Services	16·000	4	12·894	2	1·965	NS
7.	Semi-skilled	9·842	7	7·789	8	2·897	XX
8.	Agriculture	7·789	9	7·000	9	0·635	NS
9.	Commercial	7·105	10	4·263	10	2·108	XX
10.	Scientific	8·151	8	8·421	7	0·141	NS

X Significant at 0·05 level, XX Significant at 0.01 level, NS Non-Significant.

Table-2 shows that the mean score of science students from high socio-economic status are given with respect to their vocational aspirations. According to priority vocational aspirations of high socio-economic status is engineering 1, medicine 2, artistic 3, protective 4, teaching 5, and low socio-economic status group is more or less in the same order.

The "*t*" values point out that there exists significant differences at 0.01 level between high and low socio-economic science students, with regard to engineering, artistic, competitive semi-skilled and commercial services. In the medicine category, difference is sigificant at .05 level. In the remaining categories differences of scores are not statistically significant.

Table-3 : Showing the mean scores and "t" ratios of Artistic students of high and low socio-economic status with regard to ten variables of vocations (N=38) High SES=19, Low SES=19.

S. N.	Variable	Mean High SES	Rank Order	Mean Low SES	Rank Order	"*t*" Ration's	Level of Significance
1.	Medicine	7·427	9	5·473	9	1·312	NS
2.	Engineering	11·210	6	7·315	8	3·142	XX

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3.	Teaching	20·736	4	18·842	2	1·389	NS
4.	Artistic	22·421	3	19·586	1	1·255	NS
5.	Competitive Services	23·421	2	16·052	5	3·19	XX
6.	Protective Services	23·654	1	18·105	4	2·656	X
7.	Semi-skilled	9·000	8	8·842	7	0·162	NS
8.	Agriculture	9·631	7	9·631	6	0·000	
9.	Commercial	14·736	5	18·421	3	2·375	X
10.	Scientific	5·739	10	3·421	10	1·947	NS

X Significant at .05 level., XX Significant at ·01 level., NS Non-significant.

In the Table-3, Vocational aspirations of Artistic group belonging to high socio economic status group are as follows : Protective 4, Commercial 5, Engineering-6, Agriculture 7, Semi-skilled 8, Medicine 9, Scientific 10.

In the low socio-economic status group, vocational aspirations are arranged on priority basis as follows : Artistic 1, Teaching 2, Commercial 3, Protective Services 4, Competitive Services 5, Agriculture 6, Semi-skilled 7, Engineering 8. Medicine 9, Scientific 10.

From the above it is apparent the most aspired vocations among high socio-economic status artistic group is protective services. Competitive artistic, teaching and commercial services are the other highly pronounced categories of vocations.

The most aspired vocations among low socio-economic status group are artistic, teaching, commerical services, protective services and competitive services while remaining vocations are not aspired much.

Summory and Conclusions.

The aim of the present study was to examine if socio-economic status (high and low) differ with respect to vocational aspirations.

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The main findings of the present study are :

(i) The high socio-economic subjects differ significantly from the low socio-economic group with regard to artistic, competitive, protective and teaching services. However, the difference with respect to medicine and teaching are significant at .05 level.

(ii) Science subjects from high Socio-economic status differ significantly from low socio-economic group with regard to engineering, teaching, artistic, competitive, semi-skilled and commercial services.

(iii) Arts students from high socio-economic status differ significantly from low socio-economic status group with regards to engineering and competitive categories.

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A Study of Prejudice in Relation to Locus of Control

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The present study was undertaken to examine the role of locus of control in the development of prejudice. More specifically the study was designed to determine the contribution of locus of control in the development of prejudice. Hindi version of I. E. scale, developed by Rotter (1960), was administered on 400 undergraduate students. On the basis of their scores, namely internally oriented and externally oriented subjects, were formed, Each group consisted of 94 subjects. Prejudice scale recently developed by Qamar Jahan, Bhardwaj and Saeeduz Zafar (1986) was administered on these two groups of subjects to assess the magnitude of prejudice. The data thus obtained were tabulated groupwise and were statistically analyzed with the help of t-test. The results revealed that internally oriented and externally oriented subjects did not differ in the degree of prejudice.

INTRODUCTION

Theoretically prejudice is an important mark of personality. As Allport (1954) comments, "A person acts with prejudice in a first instance becouse he perceives it in a certain way. But he perceives it in acertain way partly becauseh is personality is what it is". These comments of Allport suggest that personality variables may contribute significantly in the development of prejudice. There is obviously something within the individuals that predidposes them to develop prejudice. For instance, anxiety-ridden person is likely to develop prejudice by attributing the cause of his anxiety to some persons or a group. Individuals with higher levels of anxiety display higher levels of prejudice than non-anxious individuals (Siegal, 1954; Rokeach, 1960).

Anxiety is a diffused irrational fear, it is not directed to an appropriate target and not controlled by self insight; spreads throughout the life and strains the individual's social relationship (Allport, 1954). It puts the individual on alert and predisposes him to see other person or group as menacing. There is substantial amount of evidence to

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suggest that development of such irrational fear depends on how the individual interprets his experiences aud how he interprets the causes of his experiences. If the individual perceives the events, whether positive or negative, as being consequence of his own actions and which are under his personal control, then he is not likely to develop irrational fear or anxiety. If a person, on the other hand, perceives positive or negative events as being unrelated to his own behaviour rather attributes the vicissitudes of existence of fate, luck, behaviour of others or environmental factors, he is more likely to develop irrational fear or anxiety. The first type of individuals are known as "internally oriented" individuals, while the latter type of individuals are considered as "externally oriented" individuals (Rotter, 1966). A number of investigators have reported that externally oriented individuals are more anxious than internally oriented individuals (Huntras and Scharf, 1970; Watson, 1967; Phares, 1976); and that externally oriented subjects are more hostile and aggressive than internally oriented subject (Sadowaski and Wenzel, 1982). Other researchers have found that externally oriented subjects are more suspicious, maladjusted, they have irrational beliefs, have less tendency to help others as compared to internally oriented subjects (Woherty and Ryder, 1979; Marshall, 1979; Marelli and Marelli, 1979; Ubbink and Sadava, 1974). Since it has been observed that prejudiced persons are more anxious, hostile, aggressive, maladjusted and they have poor enterpersonal relationship than non-prejudiced individuals (Rokeach, 1960, Chatterjee, Mukherjee, Chakravaty and Hassan, 1972; Enayatullha, 1980; Singh 1980; Bettelheim and Janowitz, 1964), it is reasonable to assume that externally oriented individuals should be more prejudiced than internally oriented persons. The present study is designed to test this hypothesis.

METHOD

Subjects : 188 undergraduate male students of D.S. Degree College, Aligarh, served as subjects whose orientation was determined with the help of Hindi version of Rotter's I.E.-Scale. They were assigned to two groups, namely internally-oriented and externally-oriented groups on the basis of their scores on I.E. Scale.

Tools : Following tools were used in the present study :

(1) *Internal-External Control Scale* : (I.E. Scale). Hindi version of I.E. Scale, developed by Rotter (1960), was employed to determine internally oriented and externally oriented subjects. The scale is a 29 item, forced choice test including six filler items intended to make somewhat more ambigious the purpose of the test.

(2) *Prejudice Scale* (*P. Scale*) : Prejudice scale recently developed by Qamar Jahan, Bhardwaj and Saeeduz Zafar (1986) was used to assess the magnitude of prejudice of the subjects. The relaibility of the test was determined by split half method as well as by test-retest method and it was found to be .86 and .79 respectively. The theoritical validity and construct validity of the scale was found to be ·93 and ·81 respectively.

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Procedure : Prejudice scale was administered on two groups of subjects namely internally oriented subjects and externally oriented subjects. As soon as the subjects finished their task, the test was collected from them and scoring was done. The total score for each subject is the sum of the weights he secures for each statement. The data thus obtained, were tabulated groupwise and were statistically analysed with the help of *t*-test to draw necessary inferences.

RESULTS

The mean prejudice scores obtained by internally oriented and externally oriented subjects are reported in table-1.

Table-1 : Showing mean prejudice scores obtained by internal and external subjects and the significance of difference.

Group	Mean	t-value
Internals	96.36	0.068
Externals	94.81	

Table-1 reveals that the mean prejudice score obtained by internal subjects (*i. e.*, 96.36) is slightly higher (t=.06; p$\nearrow$01) than the mean prejudice score obtained by external subjects (*i. e.*, 94.81). The results lead us to conclude that internally and externally oriented subjects do not differ with respect to degree of prejudice. Such a finding is contrary to our expectation. Numerous investigators have reported that externally oriented subjects are more anxious, aggressive and hostile and they are less confident, more inhibited, self-centered than internally oriented subjects. They exhibit little concern for the needs and interests of others, have stereotyped thinking. (David Watson, 1964; Huntras and Scharf, 1970; Sadowski and Wenzel, 1982; Chaudhary, 1986). Since these characteristics found in externally oriented subjects are positively related to prejudice (siegel, 1954; Rokeach, 1960), we therefore expected that externally oriented subjects should be more prejudiced than internally oriented subjects. Moreever, though statistically insignificant, there is trend to the effect that internally oriented subjects are more prejudiced than externally oriented subjects. This trend may become statistically significant with larger sample of subjects. Further research is, therefore, required with quite large sample of subjects to make the findings more meaningful and sound. At this stage we have no explanation of the present findings.

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The Evaluative Perception of Farmers

Dr. B. Krishna, Murthy, K. A. Jahagirdar, Devendrappa,s.

INTRODUCTION

Many new ideas and inovations are communicated to the farmers with a view to change his technical and personal approach to his occupation. It is generally recognised that, while considering the acceptability or non acceptability of an innovation many more aspects than what the experts think are the quali ties and characteristics of the innovation, are involved: In this context the clientele's perception regarding the advantages and disadvantages form an essential aspect of adoption behaviour. (Rogers 1961,, Fliegol, F. C. and kilvin J. E. (1962)., Kilvin J. E. and Fliegol, 1967·, B. Krishna Murthy et al ., 1973). While acknowledging the importance of the clientele's perception of the charac teristics of innovation, it should however be recognised that once the actual adoption takes place, the evaluative perception of farmers might undergo modification as aresult of feed back from actual practice. Since the experience as a result of feed back from actual practice is likely to be different for the small and large farmers; their evaluative perceptions are likely to be different. Hence the study is conducted to find out the differences between the small and large farmers in their perceptions of characteristice of hybrid Maize.

Methodology : The study was conducted in Arabhavi, Kalloli and Savalagi villages of Gokak taluk of Belgaum district. Sample consisted of 106 farmers consisting both small and large farmers. Classification of farmers as large and small was based on the criteria. Fiveacres and above with irrigation, with annual income exceeding Rs. 5000 was considered as large farmers. Belo v five acres and annual income less than Rs. 5,000/- was considered as small farmers. The evaluative perception scale developed by B. Krishnamurthy *et al.*, (1973) was used. The evaluative perception scale has three dimensions 1. Practicability 2. Productivity 3. Motivity.

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Table-1 : Showing the frequency and percentage of response of large and small farmers in each category of response and the averages on the four subdimensions of practicability.

	New Skill		Marketability		Supplies		Resourceful for input for adoption of practices.	
	Large farmer	Small farmer	Large Farmers	Small Fermers	Large Farmers	Small Farmers	Large Farmers	Small Farmers
	5 4 3 2 1	5 4 3 2 1	5 4 3 2 1	5 4 3 2 1	5 4 3 2 1	5 4 3 2 1	5 4 3 2 1	5 4 3 2 1
1. No. of farmer	16 24 9 12 2	8 18 8 9 00	12 29 6 13 3	11 15 2 8 3	9 22 9 17 6	4 12 15 9 3	10 33 2 11 7	7 10 15 8 3
2. Percentage	25.6 38.4 14.4 19.2 3.2	18.4 41.4 18.4 20.1 00.0	19.2 46.4 9.6 20.8 4.8	25.3 43.8 4.6 18.4 6.9	14.4 35.2 14.4 27.2 9.6	9.2 27.6 30.5 20.7 7.0	16.0 52.80 3.2 17.6 11.1	16.7 23.0 30.5 18.4 7.0
3. Average Weight	3·80	3·58	3·50	3·65	3·16	3·11	3·44	3·23

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Table-2 : Showing the frequency and percentage of response of large and small farmers in each category of response and the avarages on the four subdimentions of productivity.

	Improvement in income								Utilization of the locally existing resource								Infation with the existing practices.								Risk involvements.							
	large Farmers					Small Farmers					Large Farmers					Small Farmers					Large Farmers					Small Farmers					Large Farmers					Small Farmers				
	5	4	3	2	1	5	4	3	2	1	5	4	3	2	1	5	4	3	2	1	5	4	3	2	1	5	4	3	2	1	5	4	3	2	1
No. of farmers	6	17	10	29	1	6	14	7	9	7	11	31	7	10	4	11	10	12	9	1	5	41	11	5	1	1	13	11	11	1	16	29	7	8	3	9	13	8	7	6
Pancentage.	9.6	27.2	16.0	46.4	1.5	13.8	32.2	16.10	20.70	10.27	17.6	49.6	11.2	16.0	6.34	25.3	23.0	27.0	20.7	2.3	8.0	65.6	17.6	8.0	1.58	16.1	29.9	25.3	25.3	2.3	25.6	46.4	11.2	12.8	4.7	10.7	29.9	18.4	16.1	14.0
Average weight.	3.30					3.06					3.55					3.48					3.70					3.33					3.74					3.27				

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Table-3 : Showing the frequency and percentage of response of large and small farmers in each category of responses and the averages on the four subdimentions of motivity.

	Temporar latiude of acceptance				Relation of other Agril. paactices				Improvement in social status.				Relation to the leaving standard.			
	Large Farmers		Small Farmers		Large Farmers		Small Farmers		Large Farmers		Small Farmers		Large Farmers		Small Farmers	
	5	4	3	2	1	5	4	3	2	1	5	4	3	2	1	5	4	3	2	1
No. of farmers	7	41	4	10	1	4	36	12	11	00	7	16	9	10	1	16	33	10	4	00
Percentage	11.20	65.60	6 40	16.00	1.60	6440.	57.60	19.20	17.40	00.00	16.10	36.80	21.00	23.00	2.32	25.60	52.8	16.0	6.4	00.0
	16.10	27.60	43.70	9.30	2.32						13.8	34.5	32 2	18.6	00.0	22.4	56.0	12.8	6.4	3.2
Averags weight.	3.68		3.46			3.53			3.41			3.97			3.44			3.87		
																2'.6	50.6	11.5	9.3	00.0
																12	22	5	4	0
																3.97				

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Each Dimension has four sub dimensions. 1. *Practicability* : a. New skills ; b. marketability c. Supplies and d. Resourcefulness for inputs for adoption of the practices, *Productivity* : a. Improvement in income b. Utilisation of the locally existing resources c. Interaction with the existing practice d. Risk involvement. 3. *Motivity* : a. Temporal lattitude of acceptance. b. Relation to other agricultural practices c. Improvement in social status. d. Relation to the living standard.

Each subdimension is further expressed on a five point Lickert-type rating scale.

Scoring pattern : The responses in all the subdimensions are arranged starting from most positive through neutral to most negative perception. Therefore the responses were scored 5, 4, 3, 2, 1, respectively.

Reliability and validity : The scale has a split half (odd Vs. even items) reliability of 0·79 by the Roton's formula.

RESULTS AND DISCUSSION

A perusal of table 1 reveals about practicability and sub dimension of practicability. The large farmers perceives the new skills required for the practice of hybrid maize to be more easily acquired than the small farmers as the averages for the large and small farmers are 3 80 and 3·58, respectively. However the subdimensions of marketability, it is the small farmers who thinks that the produce can be more easily marketed then the large farmer (the avarages are 3·65 and 3 50 respectively). On the subdimension of procurement of supplies, the large and small farmers stand on par with each other (the averages are 3·16 and 3·11)· However, on the Resourcefulness for inputs for the adoption of practice, the large farmers feels much more confident than the small farmer as the averages are 3·44 and 3·23 respectively. An examination of table II reveals about the sub dimension of productivity. On the dimension of improvement in income and utilisation in the locally existing resources, the large and the small farmers dont differ much as their averages are more or less the same. However, on both the interaction with the existing practices and Risk involvement, we notice that the large farmers (the averages being 3·70 and 3·32 for the large and small farmer respectively). Again the larger farmer is prepared to accept for greater degree risk then the farmers as the averages are 3·74 and 3·27 for the large and small farmers respectively. Table III reveals about the 3rd dimension evaluative perception. i.e. Motivity and its subdimensions. On the temporal lattitude of acceptances, the large farmers have perceived the qualities of hybrid maize as more immediately acceptable then what the small farmers think, the average for the large farnmer being 3·68 and for the small farmer being 3·46, Even so incase of the other subdimesion, relation to other agricultural practices, the large farmers perceives that the adoption of hybrid maize as more immediately acceptable than what the small farmers think, the average for the large farmer being 3·68 and for the small farmers being 3·46 Even so incase of the other subdimension, relation to other agricultural practices, the large farmers preceives that the adoption of hybrid maize develops the other practices much more than what the small farmers thinks. The average for the large farmer is 3·53 where as for the small farmers it is 3·41. Very pronounced is the difference between the

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two groups on the subdimension of improvement in social status, the large farmer with an average of 3·97 expressing that their social status has improved to a far higher degree than what the small farmer thinks with, an average 3·44. However on the subdimension of relation to the living standard, the small farmer perceive that his living standard improves to a higher degree than what the large farmer thinks, their averages being 3·97 and 3·87 respectively.

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A Study on the Knowledge and Participation of Rural Women in Agricultural Operations with Respect to Paddy Crop*

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The study was conductd to assess the knowledge level and participation of rural woman and also to explore the association of personal and socio-economic characteristics with the knowledge and participation in agricultural operations with reference to peddy crop. Dharwad district of Karnataka state was selected for the study. The results indicated that rural women participated in all agricultural operations except ploughing. They had good knowledge about the various cultivation aspects of the crop. Their participation in agricultural operations was significantly associated with the personal and socio-economic characteristics.

INTRODUCTION

Women play a vital role in agriculture, spend more time than men and perform more tasks related to agriculture, dairy, and animal husbandry. Women in rural areas grow at least 50 percent of the world's food. If one takes into account and examine the role performances of rural woman, quantity of the work they do on the farm and in the home, it may easily be demonstrated that more than half of the economic development of the country is depended on women. In many areas because of increasing industrialization male labour is being drawn away and greater demand is placed upon female labour in agriculture. The farm home maker has therefore, multifarious tasks of both

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at the farm and home. These are irrevocable whether the tasks are easy or difficult, of short or long duration, liked or disliked. An attempt has been made in this study to find out the role of farm women in paddy cultivation and also to know their knowledge about the recommended paractices of the crop.

Material and Methods : In this study the data were collected from 155 randomly selected rural women of Mansur, Managundi. Baad and Salakinakoppa villages of Dharwad district, Karnataka state where rainfed paddy is the main crop. The independent variables used in the study were caste,age, land holding, annual income of the family and the depandent variables were participation and knowledge. The independent variables were classifield into low and high groups using mean as a meassure of check. Data collection was done by personally interviewing the rural women with the help of a structured schedule. Seventeen common recommended practices and operations for paddy cultivation were selected and included in the schedule. The "teacher made test" as suggested by Anastasi (1961) was employed to measure the knowledge level and extent of participation was categorised into greater extent, some extent, no participation using participation index. To know the association between independent and dependent variables 'F' and 'U' tests of significance were employed.

RESULTS AND DISCUSSION

Table-1 : Participation of rural women in farm operations with reference to paddy cultivation. N=155

Sl. No.	Items (farm operations)	Number	Percentage
1.	Sowing	132	85·2
2.	Weeding	129	83·2
3.	Storage of grains	125	80·6
4.	Land preparation	120	77·4
5.	Cleaning seeds for sowing	114	73·5
6.	Gap filling	102	65·8
7.	Manure and fertilizer application	102	65·8
8.	Harvesting	98	63·2
9.	Threshing and winnowing	97	62·6
10.	Rats and rodent control	97	62·6
11.	Preparation of manure and compost	73	47·1
12.	Birds watching	55	35·5
13.	Marketing and transport	50	32·3
14.	Labour supervision	47	30·3
15.	Plant protection measures	30	19·4
16.	Seed treatment	20	12·9
17.	Ploughing	—	—

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Table-2 : Knowledge of rural women about recommended cultivation practices of paddy.

N=155

Sl. No.	Knowledge Items	Number	Percentage
1.	Appropriate season of sowing	80	51·6
2.	Time of application of manure	77	49·7
3.	Optimum time of harvesting	75	48·4
4.	Method of sowing	72	46·5
5.	Name of pests on stored grains	71	45·8
6.	Time of seed treatment	64	41·3
7.	Type of plough used	57	36·8
8.	Knowledge about chemical fertilizers	49	31·6
9.	Method of controlling rats	47	30·3
10.	Recommended variety	44	28·4
11.	Method of fertilizer application	30	19·4
12.	Time of weeding	30	19·4
13.	Inter-row spacing	26	16·8
14.	Seed rate recommended per acre	25	16.1
15.	Time of ploughing	20	12 9
16	Best way of storage	20	12·9
17.	Name of pests on paddy	19	13·3
18.	Quantity of manure applied per acre	10	6·5
19.	Name of the disease of paddy	10	6·5
20.	Time of application of chemical fertilizer	5	3·2
21.	Quantity of chemical fertilizers application per acre	—	—
22.	Name of the chemical used to control pests	—	—
23.	Name of the chemical used to control diseases	—	—
24.	Chemical used for control of pests on stored grains	—	—
25.	Name of the chemical used to control rats	—	—
26.	Knowledge about chemical weed control	—	—
27.	Chemical used to control weeds	—	—
28.	Chemical used for seed treatment	—	—
29.	Quantity of chemical used per kg of seed	—	—

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Table-3 : Association between knowledge and participation N—155

Category	Respondents	Mean score level	Calculated value of F	U
Knowledge	155	15·0	1·86**	9·1**
Participation	155	25·2		

**Significant at 1% level.

Table-4 : Association between the personal characteristics of rural women with participation and knowledge level of agricultural operations with respect to paddy crop.

Respondents Category	Respondents Number	Respondents percent	Participation Mean scores	Participation Remarks	Knowledge Mean scores	Knowledge Remarks
Caste						
Scheduled caste	53	34·2	28·43	F=2·42*	16·2	F=1·44**
Non-scheduled caste	102	65·8	23·40	U=2·29**	14·6	U=1.07NS
Age						
High	81	52·3	24·6	F=2·4 **	15·5	F=1·33**
Low	74	47·7	28·03	U=2·19*	14·1	U=1·08NS
Land holding						
Large	59	44·69	19·5	F=1·39*	13·40	F=1·38*
Small	73	55·30	25·4	U=3·47**		U=2·3*
Landless agricultural	23	24·00	39·1	F=1 92**	16·36	F=1·11NS
labourers				U= 8·00**		U=2·3*
				F= 2·66**	20·31	F=1·18NS
				U=10·30**		U=3·54**
Family income						
High	53	34·2	19·9	F=1·18NS	14·08	F=1·13NS
Low	102	65·8	28 2	U=4·88**	17·67	U=2·75**

NS—Non-significant

* —Significant at 5% and 1% level respectively.

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Participation : Table- I revealed that rural women participation was high in sowing (85·2), weeding (83·2) storage of grains (80·6), land preparation (77·5) cleaning seeds for sowing (73.6) in comparison to others. The reason for this are women find the above agricultural operations simple, these skills get transmitted in the family. Women find these types of operations easily on the family farm or outside the family. The operations which involve heavy muscular activity cannot be done by women. Hence, non-participation was seen in ploughing. This is supported by Leela Gulati (1975).

Knowledge : The rural women had appropriate knowledge to a larger extent in the areas of sowing (51·6%), time of application of manure (49·7%), optimum time of harvesting (48·4%), method of sowing (46·5%), name of pests on stored grains (45·8%). Reason for this was they participated in the operations regularly and also they occur every year which facilitates easy remembrance. Their knowledge was limited about chemicals used to control insects, diseases, stored grain pests, rats, weeds and seed treatment. The same trend was noticed by Sandhu and Sharma (1976). Plant protection measures and fertilizer application were found as complex practices and the names were difficult to remember as chemicals varied along with proportions for different diseases and pests. This might be the reason for low knowledge (Table 2).

Association between participation and knowledge : A significant relationship between knowledge and participation of the respondents in agricultural operations (Table 3). The explanation is very well furnished by Gaikwad (1968) "as the level of information increased that pass certain threshhold, adoption is more likely to occur as the self generated pressure towards apoption increased. This relationship of diffusion effect was positive but not linear and direct".

Characteristics of rural women and their association with participation, knowledge in agricultural activities

a. Caste : Significant difference was noticed in participation between the two caste groups (Table 4). The schedule caste group respondents mean participation score was high (28·43). Most of scheduled caste respondents did not want any considerable extent of land even if they owned, they had very little area. Hence, labour work was supplementary job leading to higher participation. This finding confirms with Sharma and Singh (1970).

A non-significant association was observed between the caste of the respondents their knowledge about agricultural operations. Majority of the rural women were in non-schedule caste (65·9%). The reason for non-significant association might be that education level of both the groups did not differ much i.e., most of them were illiterate.

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Age : There was significant difference in participation of the two age groups of respondents in agricultural operations (Table 4). The low age group of respondents (47·7%) were in hight participation score (28·03) in contrast to other group. Since age is purely a physical characteristic, it may be reasonable to expect the association with participation in agricultural operations. The low age group respondents had more strength to perform certain activities. Also this group might be having relatively less social bounds like responsibility of managing the house. There was no significant difference between the two age groups of respondent in their knowledge level about agriculture operations. The gain in knowledge cognitude process and age relates to a physical growth factor without possibly with any higher degree of relevance to mental frame of references, Since mental maturity is more closely related to knowledge increments, this may be the possible reason why there was no association batween knowledge and cronological age.

Land holding : There was uneven distribution of respondents in three categories namely large, small and landless agricultural labourers (Table 4). It also indicates that there was significant association between the size of land holding and participation of rural women in agricultural operations. This finding was in conformity with the findings of Sharma and Tejratan Singh (1970). Reason for this was the large land holders might not have felt the need of working in the field except supervision. Even if they participated, they did not it only occasionally whereas small land holders and landless agricultural labourers have felt the necessity of working throughout the season for their living. The cultural norms might have acted as a barrier for the non-participation of women from large landholding families. With respect to knowledge, there was significant difference between the three categories. As the land holding status decreased, their knowledge about agricultural operations was found to be increased.

Annual income : An appraisal of Table 4 highlights the fact that no income group of respondents had high participation range (65·8%). Those who had greates need for money have participated more. Those who did not have any other occupation except agriculture might have participated more to supplement their family income. There was unequal distribution of respondents on two categories of income with respect to knowledge. Rural women with low annual income had high knowledge score range and vice-versa. This significant difference might be due to lack of money, the rural women of low income group might have participated regularly in agricultural operations. Because of the constant involvement they might have acquired more knowledge.

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Concept Formation in Socially Deprived and Non-Deprived Children

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A factorial design of 2×2 was employed for the present study with factors deprivation and sex. A sample consisting of twohundred subjects hundred boys and hundredgirls, ranging between the age group of fourteen-fifteen years, from deprived and non-deprived sections were administered Prolonged Deprivation Scale to delineate the Deprived and the non-deprived. The final sample consisted of sixty subjects, fifteen in each cell. These subjects were then administered Kasain and Hoffman Concept Formation Test and Psycho Centre Concept Formation Test to study the relationship between concept formation and social deprivation in socially deprived and non-deprived males and females. Results showed significant relation between concept formation and social deprivation with socially deprived children obtaining significantly lower scores on concept formation tasks as compared to their non-deprived counterparts. No significant relation was revealed between concept formation and sex within a social group. However, the difference between concept formation scores of males and females for different social groups were found to be significant.

INTRODUCTION

According to Piaget (1957) concept is an explanatory rule, or law by which a relation between two or more events may be described and they are abstract forms of past experience. The process by which a person develops a common responses to a general class of objects, which despite their differences in details have certain features in common, is called Concept Formation. Klaus and Gray (1972) define concept formation as the identifying of common characteristics in different aspects and event and the applying of a common label. Concepts are formed by the process of comparison and abstraction. As we compare the different objects, we note that they differ in some respects and resemble in others. We abstract or drop out the differences and consolidate the identical qualities into a whole. Concept formation is a learning task ability and is

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a pre-requisite requirement in the early years of life. Piaget (1928) observed that very young children are very egocentric, confusing external happenings with their own imaginations. Slightly older children, however become more rule conscious till finally comes the stage at which rules of the game become all important and inflexible.

The nature of environment provides the necessary sensory inputs, stimulation and experiential base for the development of perceptual skills of various kinds. These environmental factors play a significant role in the development of concept formation. Deprivation has been equated with failure to provide opportunities to have experience (Gordon, 1965), insufficient satisfaction of basic psychological needs (Keith and Kraft, 1968), deficiencies in experiences and conditions of learning (Misra and Tripathi, 1977) and a condition in which particular external and internal factors merge to narrow a person's behaviour or alternatives for achieving self fulfilment (Sinha, 1977).

Children from disadvantaged families are deprived of many experiences that are available to children from advantaged families. Stimulus materials and interactions with adults are a minimum in the lower class environment. Children from such a culturally deprived milieu are disadvantaged from the start in terms of cognitive growth.

Havighurst and Breeze (1947) found that children of non-deprived families were significantly superior to those of deprived families on each of the Thurstone tests of Primary Mental Abilities. In a study done by Tripathi and Misra (1976) it was found that deprivation of various kinds such as sensory, mascular, social, parental, cultural and economic result in deficient cognitive functioning, especially in complex perceptual tasks and conceptualization. Some of the revealing components of Prolonged Deprivation significanlly related to concept formation are emotional experiences, home environment, global prolonged deprivation, economic sufficiency and food intake. Consequently their effects upon the learning experiences are crippling (Bhargava and Marwah, 1982). The correlation between deprivation and categorization was significant in a study done by Merello (1983).

It has been generally observed that children in India are subjected to differential experiences not only on the basis of class, but also on the basis of sex. Concept formation correlates moderately with sex differences. The term 'sex role' is used so as to refer to the collection of behaviours, occupations and personality characteristics which are popularly regarded as sex typical, or as primarily appropriate for one sex or the others. Girls appear to develop stronger reading and formal language skills at an early age than boys (Maccoby and Jacklin, 1974).

Kogan (1974) in his study found that no systematic sex differences occur in the level of cognitive task performance. Peterson (1976) in his study found that female mean gain scores were significantly higher than the male mean gain scores on concept formation. Henkin (1978) studied that there does not lie a significant relationship between males and females in concept attainment. Potrapis and Hanson (1981) in their study

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found that no significant differaneces exist between men and women in cognitive style. Alagna (1982) in his study found that men and women men in the masculine and androgynous groups did not differ from each other in cognition.

The above review of researchers does not settle the issue of sex differences. There exist studies both indicating that sex differences in favour of males and females and those that indicate no differences in cognitive performance in children. The present study endeavours to study if there exist sex differences in concept formation in children.

AIMS AND HYPOTHESES

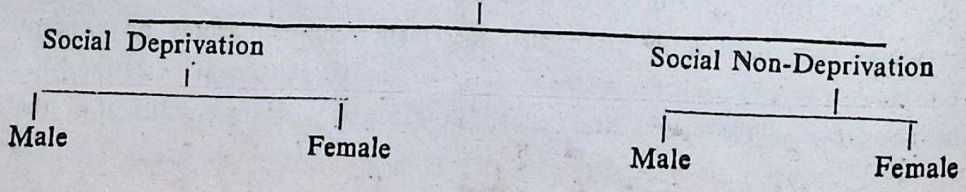
1. *Aims* : The objectivas of the present investigation were to study the effect of prolonged social deprivation and sex upon the concept formation of children. It is a basic assumption of the study that lower levels of concept formation are attributed to continuous interactions between individuals and the situations they encounter. These environments have been categorized as prolonged social deprivation and non-deprivation in the social environment of the children. It has been seen that families from different social backgrounds construct divergent environments which affect the level of concept formation in children.

Children from deprived social background are poor in concept formation, due to the fact that there is lack of enriched environment, low income, single parents, poor housing and improper education. Children from deprived environment score low in concept formation (Passow *et. al.* 1967). Further possibilities show that children from non-deprived backgrounds are provided witn facilities so as to make them capable of making perceptual discrimination among physical objects in the environment, to deal with the pictorial representation of objects and actions, and to enable them to conceptualize.

2. *Hypeses* : on the basis of review of literature, the following hypotheses are put forth : (i) Socially non-deprived children will Perform better on concept formation tasks as compared to their deprived counterparts (ii) A null hypothesis has been extended for sex differences in concept formation in children (iii) Socially non-deprived males will perform better than deprived females on concept formation tasks.

METHODOLOGY

Design : A factorial design of 2×2 was used for the present study. The factors used were deprivation and sex and the final four cells consisted of socially deprived males and socially non-deprived females. A tabular represenatation of the design is given below.



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Sample Selection : Two hundred subjects (Ss) hundred boys and hundred girls ranging between the age group of 14-15 years were selected from different government schools in Chandigarh following the randomisation procedure. Tool used for sample selection was Prolonged Deprivation Scale, PDS (Misra and Tripathi, 1977) to delineate socially deprived Ss from non-deprived Ss. The PDS was administred to 200 Ss, having different social backgrounds in small groups of 25 students. To test the homogenity of the sample t-ratios were calculated for males and females on PDS. They however revealed no significant differences. Criteria for final sample selection was mean + ISD. Mean and SD of 200 Ss was calculated and using the above mentioned criteria, Ss were differentiated into deprived and Non-deprived males and females. Ss both males and females, socially deprived and non-deprived were differentiated into the four cells of the factorial design of 2×2 with each cell containing 15 Ss, finally yielding a sample of 60 Ss.

Final Study : The following two tools were used with the final sample to test the level of concept formation in children.

(i) *Concept Formation Test* (*Kasanin and Hoffman*. 1941) : This test taps on two aspects of concept formation i. e. height and size.

(ii) *Concept Formation Test* (*Psycho Centre*) : This test taps on the aspect of class. Both the tests of concept formation were administered to children individually. No time limit was prescribed for both the tests as the time taken for each set varies. The indices of performance for both the tests were taken in the form of number of trials/errors and total time taken to complete the task successfully

RESULTS

The raw scores were treated for statistical analysis by calculating mean, standard deprivation, t-ratio and ANOVA.

Tables I and II give details of the main effects and interactions for the variables deprivation and sex.

Table-I Anova for Kasanin and Hoffman Concept Formation Test in Deprived Non-Deprived Males and Females.

	Time Taken in Seconds				No. of Trials			
	df	SS	MSS	F-Value	df	SS	MSS	F-Value
TSS	59	3514040·00	595600·00	TSS	59	1564·73	26·52	
WSS	56	25505980·00	276892·50	WSS	56	711·33	12·70	
BSS	3	19634420·40	318708·00	BSS	3	853 40	284·46	

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Main Effects					*Main Effects*				
Deprivation	1	19307490.00	19307490.00	69.72	Deprivation	1	836.26	836 26	65.83
Sex	1	311334.40	311334.40	1.124	Sex	1	.06	.06	.01
Interactions					*Interactions*				
Derpivation X Sex	1	15594.79	15594.79	.055	Deprivation X Sex	1	17.06	17.06	1.34

** P ∠ .01

Table-II Anova for Psycho Centre Concept Formation test in Deprived/Non-Deprived Males and females.

	Time Taken in Seconds				No. of Errors				
	df	SS	MSS	F-Value		df.	SS	MSS	F-Value
TSS	59	6787662.00	115045.10		TSS	59	818.18	13.86	
WSS	56	4005548 00	71527.63		WSS	56	527.33	9.41	
BSS	3	2782114.00	43517.47		BSS	3	290.85	96.95	
Main Effects					*Main Effects*				
Deprivation	1	2678017.00	2678017.00	44 **	Deprivation	1	286.01	286.01	30.37
Sex	1	58213.07	58283.07	.815	Sex	1	2.81	2.81	.29
Interactins					*Interactions*				
Deprivation X Sex	1	44114.97	45814.97		Deprivation X Sex	1	2.01	.21	

** ∠ .01

As evident from the *F*-values, variable of deprivation is highly significant. In other words, non-deprived children are superior in their performance on concept formation tasks as compared to the deprived. However, the variable of sex did not reach the level of significance.

Interactions : The inter-active effect between the variables of deprivation and Sex did not reveal any significant *F* ratio. However, when the *t*-ratios were calculated for the different groups of the study, deprivation and sex did reveal significant interactive effect upon concept formation in children (See Table III).

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Table-III t-Ratios for Deprivation and sex for Time Taken and Number of Trials/Errors on Two Concept Formation Tasks.

Sl. No.	Interactions	Kasanin and Hoffman Concept Formation Test: Time Taken in Seconds	Kasanin and Hoffman Concept Formation Test: No. of Trials	Psycho Center concept Formation Test: Time Taken in Seconds	Psycho Center concept Formation Test: No. of Errors
1.	Deprived Males X Deprived Females	·760	·729	·869	·525
2.	Deprived Males X Non-Deprived Males	5·10**	4·88**	4·46**	3·96**
3.	Deprived Males X Non-Deprived Females	6·27**	5·78**	4·53**	4·03**
4.	Deprived Females X Non-Deprived Males	5·51**	5·69**	4·11**	3·73**
5.	Deprived Females X Non-Deprived Females	7·51**	6·59**	4·21**	3·83**
6.	Non-Deprived Males X Non-Deprived Females	·788	1·01	2·56	1·52

** $p < .01$

DISCUSSION

The study focussed on the relationship between the level of concept formation and the variables of deprivation and sex. Results revealed significant relation between concept formation and social deprivation with socially deprived children obtaining significantly lower scores on concept formation tasks as compared to their non-deprived counterparts. No significant relation was revealed between concept formation and sex within a social group. However, the differences between concept formation scores of males and females from different social groups were found to be significant.

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1. *Social Deprivation and Concept Formation* : Results of the present investigation support the hypothesis put forth earlier that "socially non-deprived children will perform better on concept formation tasks as compared to their deprived counterparts". Findings of Havighurst and Breeze (1947).

Bhatia (1955), Werner and Murlidharan (1970), Das (1973), Sinha and Shukla (1974), Misra and Tripathi (1980), Bhargava and Marwah (1982) and Merello (1983) bring forth the negative effect of social deprivation on development of cognitive skills in children and therefore substantiate the results of the study. The various contributing factors bringing about this significant difference in concept formation in favour of the non-deprived Ss could be due to various factors.

The more experiences we give the child at an early stage, the richer is the divident and the child is able to solve problems in a more effective manner (Murlidharan, 1969). In a study done by Passi (1987) it was found that inadequate care during this period produces irreversible effects on concept formation. In a study done by Fried (1974) it was found that there was a significant difference in the home environment of the economically disadvantaged population. Misra and Tripathi (1977) have found a powerful levelling influence of schooling which reduced the performance difference of socially disadvantaged and advantaged children. Rath and Patnaik (1979) examined the effect of training on cognitive abilities of deprived and non-deprived children and concluded that both groups scored significantly higher after training.

Evidence from research finding brings forth the view that there exists differences in disciplinary techniques. Socially deprived mothers make use of physical assertion more than socially non-deprived mothers who rely on psychological punishment (Hoffman, 1960). Physically assaulted children score lower on measure of concept formation tasks (Burges and Conger, 1981). Erikson (1969) in a study of child rearing in relation to social status found that non-deprived families were generally found to be more exacting in their attitudes and expectations concerning their children than deprived families. Parents of deprived environment make no conscious effort to provide cognitively stimulating environment at home conducive for concept formation.

Cognitive theorists (koep, 1973, Dinner, 1976) also emphasize that much learning occurs through spontaneous discovery. Lack of motivation is a constant obstacle to getting through the disadvantaged children, who see little relevance in acquisition of concepts. Thus, the different issues which could have accounted for difference due to social deprivation in cognitive abilities can be the different social class experiences and demands, nature of the authority, social class related values and attitudes which give rise to different child rearing practices and disciplinary techniques thus affecting the quality of the home environment conducive to concept formation in children.

2. *Sex and Concept Formation* : A null hypothesis was extended for sex difference. The results of the present investigation revealed no sex differences in concept formation in children. The findings of the study are in favour of Raeheim (1963), Hoffman and

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Maier (1966), Mendelsohn *et al* (1966), Davis (1967), Kumar (1980) and Marjoribanksi (1981) who in their studies found that their lie no sex differences in the cognitive abilities of boys and girls.

The reasons accounting for no sex differences within the two groups, deprived and non-deprived might be because of the small size of the sample limited to only sixty students, educational opportunities same for males and females, a lot of encouragement being given to the daughters regarding their academic qualifications from the educated mothers of today.

3. *Interactive Effect of Deprivation and Sex on Concept Formation* : The findings of the present study support the hypothesis put forth earlier that "Non-deprived males will perform better than deprived females". Results can be supported by the study done by Loyche (1974) that experientially advantaged boys did better than the experientially disadavantaged girls on concept formation tasks. The various reasons accounting for these differences could be as :

The difference between males and females on genetic basis relates to the pattern of abilites which have been biologically determined. As far as elementary abilities are concerned, females are superior to males in auditory discrimination while males are superior in visual discrimination (Tyler, 1965).

Studies cited by Terman and Miles (1937), Sheldon (1940) and Marquis (1940) indicate that some relationship between physical and psychological variables exist. They gave personality tests to a large population of adolescent girls and found reliable differences in the responses. Nance and Sinnott (1964), Lonke (1970) and Deaux and Emsueiller (1975) in their studies found that sex differences in the area are primarily a matter of attitudes towards cognitive abilities and is susceptible to training and practice.

It is likely, however, that the social decisions based on any real or mythical biological influences on sex-related differences have far more impact on the daily lives of males and femals. Boys are given more freedom and encouragement in persuing various scientific activities, on the other hand, there is more pressure on the deprived females who are likely to avoid those situations that hold the threat of failure. Thus, we can say that the various reasons accounting for sex differences between two social groups could be the socialization, training, environmental factor, motivation and sex role performance.

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Gain in Knowledge Regarding Nutrition Among Urban School Children Through Nutrition Playing Cards

Dr. Mrs. A Randhawa* and Gurmeet Mangal**

An effort has been made to study the gain and retention of knowledge regarding nutrition among urban school children through nutrition playing cards and to determine the association of socio personal variables of the respondents with their gain and retention in knowledge.

The sample comprised of 96 school children of Ludhiana city. The data was collected through objective type knowledge test paper. The treatment chosen for study was nutrition Playing cards.

Three categories of all the respondents were made according to their scores obtained in each test paper, The paired 't' test was applied to study the significante of gain in and retention of knowledge. For determining the comparison of variation in gain in and retention of knowledge in the variables two sample 't' test and analysis of variance was applied. Association of socio-personal variables of respondents with gain and retention of knowledge was compiled through chi-square test. Main findings of the study were-the gain in and retention of knowledge was significant at 0·01 level. Gain and retention of knowledge was more of those respondents whose were matriculates and mothers educated upto middle and belonged to nuclear families.

Age, sex, parents' education, occupation of father income had significant association with retention of knowledge nutrition.

INTRODUCTION

To be well nourished is one of the rights of childhood. The responsibility of turning this right into reality rests with parents, shared by teachers and all others who are interested in the welfare of children. Of all ages, the teenagers are opt to offer the

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greatest challenge for the teachers of nutrition. These years are crucial because more nutrients are required in preparation for the rapid growth of the adolescent. This is also an age when it is appropriate to give continuing emphasis on nutrition education and to direct attention towards developing good nutrition habits.

Social pressures which encourage fads, often, seem to be in direct opposition to nutritional well-being of this age group. Since typial approaches of teaching may fail reliable nutrition techniques must be developed. Several techniques may be used to disseminate nutrition education at school level. These techniques should be used according to the students, level of under-standing. Only then, they will be able to learn more effectively.

In the present study, nutrition was taught to school children through nutrition playing cards. This media of imparting education was selected because children at this age are fond of playing cards. The objectives of the study were :—

1. To study the gain and retention of knowledge regarding nutrition among urban school children through nutrition playing cards.
2. To determine the association of social and personal variables of the respondents with their gain and retention of knowledge.

Methods and Matertal : The study was conducted in four co-educational schools located in Ludhiana city. Out of nine co-educational schools four schools were selected randomly. A list of students who were in eight and ninth grade were compiled. The students were randomly selected twelve boys and twelve girls from each school. The total sample was 96 students.

The treatment selected for the study was nutrition playing cards which was prepared by Bajaj et. al. (1979) Through these cards two games were played i.e. Balanced diet and nutrient deficiency diseases. Objective type knowledge test paper was prepared which was based on the information to be imparted through nutrition playing cards. This test paper was given to ten panel members who were nutritionists and their suggestions were incorporated. An information sheet to collect the socio-personal variables of the respondents was also prepared. The respondents were divided into groups of four as these games could be played by 2-4 students only. From each class 3 groups were made of 12 students (6 boys and 6 girls) and assignment of nutrition playing cards was given. The data were collected from both eight and ninth grade students in one school one same day, to avoid the problem of contamination between the groups.

Firstly, games were explained thoroughly by investigators to the respondents with the help of charts. After ensuring the procedure to them, then they were asked to play the game. Each game was played four times by each group. The time for playing games and administration of test paper was kept constant for all groups. The knowledge test paper was administered before and after the exposure of treatment to measure the levels of knowledge of the respondents. The same test was given after an interval of one month to the respondents to see the retention of knowledge.

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RESULTS AND DISCSUSSIONS

The socio-personal characteristics of the respondents like grade level, medium of instruction, age, sex, parents education type of family occupation of the father and income of the family were classified.

Score of one was assigned to each test item which had correct answer and zero to an incorrect answer. In order to know the amount of knowledge gained after the treatment, the difference between post test and pre-test scores for each respondent was worked out. The difference between pre-test scores and test-scores taken after an interval of one month formed the knowledge retained. The data were analysed by paired 't' test to see the statistical significance of the observed difference between pre-test and post-test scores and between retention test and pre-test scores.

Distribution of Respondents was made on the basis of scores obtained by them in test paper through cube-root method. The range for each category was kept equal i.e. low knowledge (5-19), Medium knowledge (19-33) and high kn6wledge (33-46). All these categories were exclusive in nature.

Table-1 : Distribution of Respondents according to their Scores.

Categories	Previous knowledge Means (t_1) scores		Gain in knowledge Means (t_2) scores		Retention in knowledge Means (t_3) scores	
	N	%	N	%	N	%
1. Low knowledge (5-19)	30	31·25	12	12·50	30	31·25
2. Medium knowledge (19-33)	58	60·42	64	66·67	47	48·95
3. High knowledge (33-46)	8	8·33	20	83	19	19·80
	98	100·00	96	100·00	96	100·00

From the table-1 data showed that only 12·50% of the respondents fell in low gain in knowledge category as compared to the previous knowledge test where 31·25% of the respondents fell in low knowledge category. Similarly in the case of high knowledge category, only 8·33% of the respondents were falling in previous knowledge where as in gain in knowledge 20·83% of the respondents fell in the the high knowledge category.

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Effectiveness of Treatment : The effectiveness of treatment is calculated in terms of the level of knowledge immediately after playing nutrition playing cards, and retention after an interval of one month. The mean knowledge scores in previous knowledge list, in post-test and one month after the treatment was tested by using the paired 't' test.

Table-2 : Knowledge gained and retained by Respondents N=96

Knowledge Test	Mean Knowledge scores	t-value
1. Previous knowledge	28·75	—
2. Post-knowledge	27·00	34·81
3. Retention test (after one month)	20·37	33·05

Significant at .01 level

The calculated 't' value was compared with the table value to obtain in knowledeg retention of knowledge. It was found statistically significant. Jha and Sharma, Bajaj and Mehta, Betty and Katherine, and Spitz also support the finding of the study.

The comparison of variance in gain in knowledge of the respondents was calculated with the help of two sample 't' test and analysis of variance (Table-3). Data gain in knowledge of the respondents and also to see whether this difference was the contribution of the treatment or was accidental.

Table-3 : Comparison of Variance in Gain in Knowledge of the Repondents.

Variables	Pre-test (X)	Post-test (X)	Gain in Knowledge score (X)	't' value	'F' value
Grade Level					
Eighth	24·79	51·58	26·79	6.75*	
Ninth	25·79	46·95	21·16		
Medium of Instruction					
English	25·94	43·29	17·35	7·34*	
Hindi	23·29	50·59	27·30		
Age (Years)					
12-14	25·19	49·14	23·95		
14-16	23·91	49·54	25·63	1·66NS	

Contd.

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Sex					
Male	23·98	44 85	20·87		
Female	26·73	50·63	23·90	5·77*	
Fathers' Education					
Matric	18·77	48 33	29·56		
Graduate	25·98	43·50	17·52		2·70*
Post-graduate	25·98	51·16	25·88		
Mothers' Education					
Illiterate	13·50	44·75	31·25		
Middle	11·50	45·5	45·00		
Matric	22·74	48·22	25·48		3·74*
Graduate	22·13	48·28	21·15		
Post-graduate	29·2	51·35	22·15		
Type of Family					
Joint	28·12	49·06	20·88		
Nuclear	24·71	48·71	24·00	·3524NS	
Fathers' Occupation					
Agriculture	31·25	56	24·75		
Business	31·21	45·36	14·15		8 25*
Service	25·32	50·76	25·44		
Mothers'Occupation					
Housewife	25·71	56 24	30·53		
Service	22·47	47·60	25·13	8·71*	
Income Rs.					
Low (Upto 500)	19	38	19		
Middle (600-1000)	17·57	43	25·43		6·37*
High (above 1000)	24·45	49 62	25·17		

* Significant at .01 level

NS=Non-Significant

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Table-4 : Comparison of Variance in Retention in knowledge Regarding Nutrition.

Variables	Pre-test knowledge score (X)	Retention test knowledge score (X)	Retention (X)	't' value	'F' value
Grade Level					
Eighth	24·74	44·58	19·79	·430 NS	
Ninth	25·79	44·93	19·14		
Medium of Instruction					
English	25·94	44·33	18·39		
Hindi	23·29	43.29	20.00	1·01 NS	
Age (Years)					
12-14	25.19	45·18	20·62		
14-16	23·91	40·91	17	1·50 NS	
Sex					
Female	26·73	42·36	15·63		
Male	23·98	46·04	22·06	3·81*	
Fathers' Education					
Matric	18·77	40 45	21·68		
Graduate	25·98	45·45	19.47		
Post-graduate	25·88	42.47	16·59		·169 NS
Mothers' Education					
Illiterate	13 50	38	24·5		
Middle	11·50	44	32·5		
Matric	22·74	42·77	20 03		
Graduate	23·13	43·23	20·1		4·08 *
Post-graduate	29·2	46·6	17·4		
Type of Family					
Joint	28·18	44·5	16 32		
Nuclear	24·71	43·58	18·87	1·38 NS	
Fathers, Occupation					
Agriculture	31·25	43·25	12		
Business	31·21	44·95	13 74		
Service	25·30	43·44	18·12		3·19 *

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Mothers' Occupation				
Housewife	25·71	45·01	19·30	
Service	22·47	41.78	19·31	·004 NS
Income of Family (Per month Rs)				
Low (Upto 500)	19	41·5	22·5	
Medium (600-1000)	17·77	40·28	22·71	5·27 *
High (above 1000)	24·95	44·56	20·11	

* Significant at .01 level

NS = Non-Significant

The data in table 3 and 4 showed that gain in knowledge within the grade level was more for eighth grade respondents as compared to ninth graders where as retention was almost same in both eighth and ninth graders. The treatment had more effect on higher age group (14-16 years) rather than the lower age group in case of gain in knowledge whereas the lower age group respondents had more retention than higher age group. Male respondents had retained more knowledge regarding nutrition but previous knowledge and gain in knowledge was more in case of female respondents. Those respondents had more retention of knowledge regarding nutrition whose fathers' education was matric as compared to those whose fathers' were graduate or post-graduate. The effectiveness of treatment for this more retention knowledge was not significant statistically (Table).

Those respondents who had ratained more knowledge through nutrition playing cards in nutrition where from those families where another education was upto middle or primary level as compared to those whose mothers had higher education, but the previous knowledge and gain in knowledge scores of respondents in nutrition before and after the treatment increased with increase in mothers' education. This retention of knowledge was due to treatment and it was statistically significant at .01 level, The data indicated those respondents who came from nuclear families had more gain in knowledge and retention of knowledge as compared to those who were living in joint families.

The respondents whose father was engaged in service jobs had more retention as compared to those whose father was doing farming or business. This information of knowledge due to the effectiveness of treatment was statistically significant at .01 level. The retention was more in case of respondents whose families were in low and medium income group as compared to those of high income group families. It was due to the effectiveness of treatment and was statistically significant at .01 level. It can be concluded that treatment had effect on retention of knowledge regarding nutrition. The results of the study were supported by kaur and khanna (1972) who found that visual instructional aids were effective in retention of the subject matter of nutrition.

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Variables Associated with Gain and Retention of Knowledge in Nutrition

The association of variables i. e. education, age, sex, parents' education, occupation, type of family, income with gain and retention in knowledge was computed by the help of chi-square test. The results (table 5) showed that grade level, medium of instruction both the parents' education and type of family had association with gain in knowledge of respondents regarding nutrition. This association was significant at .01 level. Sex, parents, education, occupation of father, income of the family had association with retention of knowledge of respondents regarding nutrition and it was significant at .01 level.

The results showed that this treatment (Nutrition playing cards) can be used to communicate nut-rition education to a large number of people. As this had positive effect on retention of knowledge it will be more beneficial of knowledge is imparted to a large number of groups to make them more awarded about this education.

Table-5 : Association of Variables with Gain and Retention in Knowledge.

Variables=	Frequency	Gain in knowledge Chi-Square value	Retention in knowledge Chi-Square value
Grade Level			
Eighth	48	9·41*	·66 NS
Ninth	48		
Medium of Instruction			
English	72	13 94*	1·29 NS
Hindi	24		
Age in years			
12-14	62	2·24 NS	9·45 *
14-16	34		
Sex			
Female	48	2·37 NS	10·24 *
Male	48		
Fathers Education			
Matric	11		
Graduate	49	15·86 *	12·46 *
Post-graduate	36		

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Mothers, Education			
Illiterate	4		
Middle	3		
Matric	31	11·83 *	
Graduate	38		21·18 *
Post-graduate	20		
Type of family			
Joint	16	8·53 *	3.38 NS
Nuclear	80		
Occupation of father			
Agriculture	4		
Business	43	·654 NS	7 23 *
Service	49		
Occupation of mother			
House wife	73		
Service	23	1·45 NS	·319 NS
Income			
Low (Be low Rs. 500/-	2		
Medium (501-1000)	7	2·51 NS	11·87*
High (Above Rs. 1000)	87		

NS = Non-Significant
* = Significant

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Development of Concrete Level Concepts in Environmental Studies Among Primary School Children

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INTRODUCTION

Environmental studies in the form of outdoor education, nature study or environmental education are occuping the central position in the school curriculum for the enrichment of the school education with environmental inputs (UNESCO, 198 ,). Concepts relating home, family, society, personal belongingness, sanitation, local and national geography, and scientific concepts like sky, planet, air, water, weather, energy, force, living and non-living, human body, animals, plants, birds, etc. have been included in the environmental studies curriculum from the beginning of our ten year school education (NCERT, 1975a; 1976a). But inclusion of these concepts require research support as the difficulty nature and complexity level of these concepts increase gradually. There is a need therefore systematic investigation about the nature of these concepts and characteristic of learners. Wisconsin studies on the development of cognitive learning of children (Cognitive Learning Development Theory) specifies various mental operations at four heirorchical levels for measurement of concept attainment in school situation (Klausemeier, Ghatal and Frayer; 1974; Klausmeier and Allen, 1978). These four levels of attainment are : concrete, identity, classificatory, and formal. Attainment of concepts at concretelevel is basic to attainment of concepts other higher levels. Further, attainment of simple concrete level concepts provides hooks for difficult concepts. Specific mental operations at this level of attainment are : attainding, discriminating, and remembering (Klausmeier, Allen, 1978). Childern become sensitive to receive stimuli or to perceive situation through 'attending' and then to discriminate a particular object from other objects.

To achieve 'discrimination' children have to discover specific trait (traits) which is exclusively present in that object or set of similar objects. Successful 'discrimination' leads towards storing of acquired skills and knowledge for future use in the form of 'remembering' or 'memory'. But, discrimination 'at this stage is restricted to identify a particular type of object or objects from the universe of other objects. Hence, acquisition of various concepts at this level is a function of children's familiarity with concrete examples and non examples available in real life situation.

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Learners' age and educational experiences are closely associated with their concept attainment scores. Increase of concrete level concept attainment scores alongwith educational level is an established observation of the Wisconsin Research Centre (Klausmeier, 1980). Works of Rao (1979) Roa and Reddy (1977). Rao and Devi (1980), Chatterjia (1978) Basu and Ramachandran (1979) in Indian condition have established positive association between mean concept attainment scores and length of schooling. But, the possibility of inter and intra individual differences within the same age or grade out has not been investigated especially within sex variation and degree of deprevation

The prolonged deprivation effect or the accumulated early experiencial background of children measures their degree of acquintance with various objects or events. It has been observed that unstimulated environmental condition like poor verbal fluency, and lack of adequate sensory experiences are the causes of decline in intelligence and academic progress In Indian condition, association of caste and racial variables with poverty further deteriorate experintial condition. Earlier studies both abroad and in this country do not exhibit a clear cut relationship between early deprivational forces and later intellectual development (Eysenk, 1975 ; Rath 1973 and Rao and Reddy, 1977).

Discripancies in previous studies relating to different variables may be attributed to some methodological gaps. Moreover, individual studies as well as studies of other culture have very little relevance to our own setting. A comprehensive study measuring children's attainment of concrete level concepts from different areas of environmental studies appears to be absent in our literature. The present attempt is to study attainment of concrete level concepts from 10 different areas of environmental studies among children varying in educational level deprivation effect, and sex.

Objective : The objectives of this study is : To demonstrate the independent and interacting effect of educational level, prolonged deprivation effect and sex of children at attainment of concrete level concepts in 10 different areas of environmental studies developed by the author.

Hypotheses : 1. There will be significant difference in scores on environmental concept development task of children belonging to different educational levels. Scores of higher grade children will be higher than that of children reading at lower grades.

2. There will be significant difference in environmental concept development task of children belonging to different prolonged deprivation groups. Children at the lower prolonged deprivation group will exceed their counter parts belonging to moderate and high deprivation groups. Moderately deprived children will be at a higher level then high deprivation group.

3. There will be significant sex difference in attainment of scores on environmental concept development task

4. There will be significant interaction effect between educational level x prolonged deprivation level of children in the concept attainment score.

5. There will be significant interaction effect between educational level x sex of children in the concept attainment scores

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6. There will be significant interaction effect between prolonged deprivation effect x sex of children in the concept attainment scores,

7. There will be significant interaction effect among educational level x prolonged deprivation effect x sex of children in concept attainment score.

METHOD OF STUDY

Sample : The sample for the study were drawn from some selected U. G. M. E. Schools in the district of Cuttack (Orissa). All these institutions were selected from a rural compact area in order to minimise environmental variation. The final sample were choosen from a larger sample of 300 boys and 300 girls after administering the Oriya version of the Prolonged Deprivation Scale (Mishra & Tripathy, 1978)-Children who complited their education at grades 1, 2, 3, 4, and 5, were selected for the purpose. For each grade there were 90 children (45 boys and 45 girls). The first 25 percentage of the sample from different grades and sexes, whose prolonged deprivation scores (PDS) were low, constituted the low deprivation group. Similarly, the last 25 percentage of the sample constituted the high deprivation group. The middle 25 percentage *i. e.* from 37·5 percentile to 62·5 percentile were considered as the moderately deprived children. Hence, finally there were 450 children equally representing all the educational levels, deprivation effects, and sex.

Tools : Oriya adapatation of the prolonged scale (Mishra & Tripathy, 1978) was used to determine the deprivation level of children. There are 96 items in this scale covering different experiential areas. Some of the items of the original scale were modified depending upon local environmental and cultural necessity. The other tool used was the environmental concept development task (ECDT) at concrete level. This tool was developed by the investigator to measure dependent variable. There are 50 tasks measuring attainment of 50 concrete level concepts from 10 different areas of environmental studies. The curriculum in the environmental studies at primary level were analysed and then were devided into 10 different areas in order to measure children's level of attainment in each area. Different areas are : daily life, health, social life, geography, biology, natural resources, economics, physics, astronomy and mathematics.

Design : A 5 X 3 X 2 factorial design was adopted in order to suit the objectives of the the present investigation. The three factors were educational level prolonged deprivation effect, and sex. For educational level children were from five different grades. Children from grade 1 to grade 5 constituted five educational levels. Prolonged deprivation effect had three levels : low, moderate and high. Low prolonged deprivation group represented children having better living conditions and experiential background. But the high group had to struggle against different odds in life situation. The moderate group were from average families neither having better living conditions nor facing retardation in life. The third factor is sex.

Procedure : Procedure of the study included development of environmental concept development task (ECDT) at concrete level, selection of sample through prolonged deprivation scale and administration of ECDT. The ECDT constituted 50 tasks repre-

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senting 50 concepts from 10 different areas of environmental studies curriculum for all the five grades. Each task is a multiple choice item having five options. Final selection of concepts and tasks measuring them were made by a pannel experts working in the field. The prolonged deprivation effect of each subject was decided on a five point scale for each item with the help of personal interview with the child and his/her parents, teachers, own observation and verification of school records. But in case of environmental concept development task both individual and group administration were followed. Children at grades 1 and 2 were individually tested. For other grades group administration procedure was followed. Each group constituted 10 to 15 children. Each child has to record his/her response on a five point scale for each item in a separate answer sheet. There were 5 tasks in each area. For correct response score 1 one) was awarded to each item. Hence a child's score varied from 0 to 5 in each area.

RESULTS

The objective of the present investigation was to study effects of educational level, prolonged deprivation effect and sex and their interaction on attainment of concepts. Mean scores for each of the 10 concept areas at different educational levels, prolonged deprivation effects, and sex are presented in Table 1. It is observed from table 1 that there is increase in concept attainment scores with rise in educational level at each concept area. But area wise mean scores decrease with rise in prolonged deprivation level. In order to establish the significance of above statements the data were analysed using $5 \times 3 \times 2$ analysis of variance. The F-ratios for different educational levels, prolonged deprivation effects, and sex and corresponding interactions were obtained and these values are presented in Table 2. From Table—2 it is observed that the main effects for educational level in all the areas are significant. This shows that there are significant differences in concept attainment scores among children from different educational levels. Variations in mean scores from grade 1 to grade 5 in all the 10 areas are observed. As children's educational experiences increase they handle more and more concrete objects and hence, their ideas about various concepts at this level are stablished. The significance of difference of difference between grades was established through t-test. The significant 't' values are presented in Table 3. Except few t-values between grades 1 and 2, 2 and 3, and 4 and 5 all other differences are statistically significant.

Further, from Table 2, it is observed that the main effects for prolonged deprivation level are significant. Hence, children's attainment of various environmental concepts are influenced by their level of deprivation. Area wise deprivational group means from low deprivation level to high deprivation level decrease. Hence, rise in deprivational level of children causes retardation in their level of attainment of various concepts. To test the level of significance between deprivational groups, corresponding t-values were computed. These values are presented in Table 4. All the t-values are statistically significant. Increased t-values were observed with wider gaps between deprivational groups.

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Table-1 : Mean Concept Attainment Scores at different Educational levels, Deprivation effects and Sex.

Areas of Concepts	Educational levels					Deprivational effects			Sex	
	G_1	G_2	G_3	G_4	G_5	L	M	H	B	G
1. Daily life	3·46	3.62	3.76	4.03	4.21	4.23	3·76	3·45	3 83	3 80
2. Health	2 54	2·82	3·10	3·54	3·93	3·86	3·28	·63	3·27	3·11
3. Social life	1·73	2·26	2·48	3·80	3·53	3 21	2.60	1·99	2·71	2·49
4 Geography	1·32	2·12	2·67	3 63	3·73	3·42	2·57	2·09	2·74	2·65
5. Biology	2·94	2·88	3·72	4 28	4·50	4·17	3·69	3·13	3.75	3·58
6. Natural Resources	0·87	1·95	3 20	4 01	4·06	3·46	2·80	2·18	3·04	2·58
7. Economics	1·95	2·35	3·04	3 66	3.69	3·39	3 04	2·36	2 97	2 86
8. Physics	1·86	1·65	2·47	2·94	3·08	3·14	2·36	1·68	2·58	2·21
9. Astronomy	0·40	1·68	2·04	2·68	3·18	2·40	1·94	1·66	2·03	1.96
10. Mathematics	0·87	1·64	1·86	2·56	3·18	2·70	1·99	1.36	2·14	1 90

Table-2 : Area wise F-values for different Variables.

Areas of Concepts	Educational E	Deprivation D	Sex S	E×D	E×S	D×S	E×D×L
1. Daily life	12·56*	34·5o*	0·14	0·95	5 08*	0·35	1·25
2. Health	30·15*	63·10*	3·10	0·15	0·94	0·73	0 64
3. Social life	30·48*	50·37*	4·95≠	4·69*	2·41≠	3 66	1·09
4. Geography	87·72*	64 04*	0·91	2·63*	6·68*	0·44	2·42≠
5. Biology	4·91*	39·04*	3·25	0·69	1·65	1·51	0 60
6. Natural Resources	161·31*	58·03*	22·02*	2·11≠	6·27*	0·69	1·04
7. Economics	54·77*	41·76*	3·51	0·73	1·30	1·51	1·85
8. Physics	31·02*	67·21*	12 96*	2·19≠	2·03	0·81	1·33
9. Astronomy	99·80*	20·13*	0·49	1·34	1·30	2·43	1·41
10. Mathematics	59·59*	57·16*	5·69≠	2·53*	1·81	0·41	0 73
df	4	2	1	8	4	2	8

* $p < 0.01$, $p < 0.05$, For Educational level df=4/420 For Deprivational level df=2/420, For Sex df=1/420.

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Table-3 : Area wise t-values between different Educational levels.

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Area of Concepts	$t_{1/2}$	$t_{1/3}$	$t_{1/4}$	$t_{1/5}$	$t_{2/3}$	$t_{2/4}$	$t_{2/5}$	$t_{3/4}$	$t_{3/5}$	$t_{4/5}$
1. Daily life	—	2·44*	4·63	6·10	—	3·30	4 80	2·20*	3 66	—
2. Health	2·00*	4·00	7·14	9·93	2·00	5·14	7·93	3 14	5 93	2·78
3. Social life	3·37	4·69	·93	11·25	—	4 62	7·93	3·25	6·56	3·31
4. Geography	5·00	8·44	14·43	15 06	3·44	9.44	10·06	6·00	6·03	—
5. Biology	—	5·20	8·93	10·40	5 60	9·33	10 80	3·73	5·20	—
6. Natural Resources	6·75	14·56	19·62	19 93	7 81	12·87	13 19	5·00	5·37	—
7. Economics	2 53*	7·33	11·44	11·67	4 75	9 00	9·13	4·13	4·33	—
8. Physics	—	3 81	6·75	7 56	5·15	8·06	8 87	2·93	3·75	—
9. Astronomy	8 53	10·43	15·20	18·53	2·40	6·70	10·00	4·26	7·60	3·33
10. Mathematics	4 81	6·19	10 56	14·44	—	5·75	9·62	4·37	8·25	38·7

df=178, * p∠0·05, For all other values p∠0·01.

The main effect for sex is significant only in the areas of social life, natural resources, physics and mathematics. Hence, importance of sex variable in these areas has been established. Mean scores for boys and girls in different areas are presented in Table 1. Magnitude of these statistics indicate closeness of both sexes on attainment of environmantal concepts. t-values in social life, natural resources, physics and mathematics are respectively 4.95, 5.11, 3.70, 2.40 with df=448. Hence, boys supersede girls in these areas of concepts. The interaction between educational level prolonged deprivation effect is significant at 0·01 level in the areas of social life (F=4.09) and geography (F=2.63) and at 0.05 level in the areas of natural resources (F=2·11), Physics (F=2.19), and mathematics (F= 2·40) with df=8/240. In each of the above cases, the low deprivation group exceeds the moderate and high deprivation groups irrespective of educational levels. The gap between experiential levels is narrower both at the lower and higher educational levels. Inter group comparions were made in each of these cases.

The interaction between educational level and sex are significant at 0.01 level in the areas of daily life (F=5.08), geography (F=6.68) and natural resources (F=6.27) and at 0 05 level in social life (F=2.41) with df=4/420. In all these cases mean scores increase with rise in educational level for both the sexes.. Niethor the boys nor the girls exceed the other group at each level of education. Hence, both boys and girls acquire more and more concepts with rise in educational level inrrespective of sex.

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The interaction between deprivational level and sex is significant in the area of social life only ($F=3.66$, $df=2/240$, $P>05$). Boys exceed girls at low and moderate levels. But the result is reversed at the high deprivation level. Statistical significant was made through inter group comparision.

Table-4 : Area wise t-values between different Deprivation levels.

Areas of Concepts	$t_{L/M}$	$t_{L/H}$	$t_{M/H}$
1. Daily life	2·05	4·11	1·06
2. Health	5·27	11·18	5·91
3. Social life	3·81	7·62	3·81
4. Geography	7·08	11·08	4·00
5. Biology	4·00	8·75	4·67
6. Natural Resources	5·50	10·66	5·16
7. Economics	2·91	8·58	5·67
8. Physics	6·00	11·23	5·23
9. Astronomy	3·83	6·16	2·33
10. Mathematics	5·46	10·30	2·84

The interaction among educational level, deprivation effect and sex in the area of geography is significant ($F=2·42$, $df=8/420$, P ·05). Boys from low deprivation level exceed boys from moderate and deprivation groups at grades 1, 2 and 3. But the difference is less at higher grades. Similar conclusions are drawn for girls. Further analysis of the data reveals that the difference between group means will be significant at 0·05 level when the corresponding values of difference exceeds 0·76. The remaining effects are not significant.

DISCUSSION

Educationl level : The first hypothesis of the study that there will be significant difference on concept development scores of children belonging to different educational levels has been proved. Superiority of children at higher educational levels over their counter parts at lower levels of education has been established through the increase of mean score with increase in educational levels and significance of main effects for different educational levels in all the areas of environmental studies. Works of Klausmeier, Ghatal, and Frayer (1974) ; Klausmeier and Allen (1978) provide support to the present investigation.

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Children at grades 1 and 2 are able to vervalise concepts from daily life, health and biology at a higher rate than other areas due to their frequent encounter with various objects, events or situation representing these concepts. Discrimination of objects like food, dress, drinks, animals, birds, plants, livings and non-livings, excretes, medicines, disinfectants etc. Seems to be easier for these children. These children have to wait till grade 3 for acquisition of concept from other areas. But, children who were at grade 3, due to their increased educational experiences and frequent encounter with various objects in life situation, were able to verbalise concepts from different areas excluding astronomical and mathematical concepts. The sample for the present study being from rural areas, children at grade 1 and grade 2 had little exposer towards objects, events and situations comprising concepts of social life, geography, economics, natural resources and physics. But acquisition of these concepts at grade 3 may be through their exposer to text books, wider environment and increased power of verbalisation. This difference in concept attainment between grades 1 and 2 children in one hand and grade 3 children on the other side gets support from Piagetian stage of concept development. Grade 3 children being at the age of 8+ or 9+ years inter into the concrete operational stage from pre-operational stage. Hence, the result of the present investigation establish the superiority of concrete operational children over pre-operational group. Further the results are in accordance with the works of Bruner et *al.* (1966) which indicate specific, exact and multidimensional nature of symbolic representation of concepts along with increase in age.

4th and 5th grade children with their increased abilities to observe and verbalise, discriminate specific objects, events, and ideas at a higher rate. Results of the present study revealed easier access of these children to each of the 10 areas of concepts over their counter parts at lower grades. But lower magnitude of mean scores in the areas of astronomy and mathematics for these higher grade children may be due to relative difficults nature of these concepts. It may be recalled that verbalisation of these concepts was not possible at lower level of education. But concentric inclusion of astronomical and mathematical concepts from the beginning of school education, and increase in age and educational experiences at higher grades, created necessary experiential background for attainment of these concepts. Hence, the finding get support from works of Wohlwill (1960) which confirm concept attainment without direct observation of concrete object in case of elder children.

Grade 5 children due to their increased educational experiences, and wider exposer to environment excell all other children in attaining, discriminating and internally representing various observable features of different object, event and situation. They are at a higher rate of acquisition of various concepts. Hence, the study reveals that concept attainment among primary school children is a function of educational experiences, frequency of acquaintances with concrete objects, events and situations representing these concept and aibility to verbalise.

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Deprivation effect : The hypothesis relating to prolonged deprivation effect and concept attainment scores of children in the present study has been established. Decline in mean scores in various areas with rise in levels of prolonged deprivation effects has been observed. All the main effects for deprivational are consistantly significant at each area of concepts. Magnitudes of pooled means decreased with rise in accumulation of deprivational forces and increased difficulty areas of environmental concepts. The present findings get support from work of Kaplan (1968), Gilgudia (1974) and Baker (1973) which reveal low concept attainment by diadvantaged children over their counter parts from better homes.

Attainment of various concepts from areas of daily life and biology by children irrespective of deprivational groups has been possible due to availability of concrete examples of these concepts in real life situation. Studies of Skypek (1967), Whitemen and Deutsch (1968) provide support to the above result. The low deprivation group due to their better experiential background were at a higher level than their counter parts from other two groups in attaining concepts in the areas of health, social life, geography, natural resources, economics, and physics. Due to poor environmental facilities the moderate and high deprivation children have little encounters with various objects and events representing above concepts. Further, the mean scores for moderate and high deprivation groups in the areas of astronomy and mathematics were verly low. This indicate limited number of physical representation of these concepts in real life situation. But the low deprivation children could exceed the other groups due to their better environmental facilities. The studies of Provence and Lipton (1962) which attributed early life in fondling home to low conceptual ability, and Sigel and Olmstead's (1970) observation about inferiority of lower class balck kindergarten children over middle class children in categorising behaviour provide support to the present findings. Indian studies of Rath (1974) , Das and Singh (1975), Dutta and Panda (1977) and Mishra (1983) indicate supporting evidence to the present work. Studies of Piaget (1970), Bruner et *al.* (1977) and Klausmeier and Allen (1978) and Klausmeier (1980) did not include socio economic condition or other non intellictive variables. But do children interact with different object or event in vaccum ?' Do their immediate invironment is silent in this direction ? Present study provides answer to these questions.

Sex : Further the result of the present study did not reveal a clearcut evidence in favour of either sex as a variable in concept attainment scores at concrete level. Pooled mean scores of boys exceeded that of girls but without warrenting statistical support except in the areas of mathematics, physics, natural resources and social life. Early concept learning experimental, entire Piagetian researches and concept attainment studies carried out in the Wisconsin Research centre did not include sex as a variable. Hence, these studies presumed equal mental status of boys and girls as has been established in this study. But, studies of Macooby and Jacklin (1974), Parson (1981) and Peterson et *al.* (1982) established superiority of boys over girls in the areas of mathematics, aggressive behaviour and team sprit. Peterson et *al.* (1982) have observed that girls are

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sympathetic, dependent, and anxious. Person (1981) has explained sex difference in attaining concepts in mathematics due to parental influences rather than chromosomol differences. Hence, these studies support the present result. Boys superiority over girls in some areas of environmental studies may be attributed to late maturation of boys than girls and frequent encounter of boys with various objects, events and situations representing these concepts. Hence, the hypothesis that there will be significant sex difference in environmental concept attaintment scores at concrete level is rejected.

Educational level x Prolonged deprivation : The hypothesis that there will be significant interaction effect between educational levels x deprivation levels in the concept attainment score has been established. Result of the present study revealed significance of all the main effects both for the educational level and prolonged deprivation effects in all the 10 areas of environmental studies curriculum. But the interaction effect was significant in the areas of social life, geography, natural resources, physics, and mathematics. Pooled mean scores in other areas irrespective of educational level and deprivation effect were close to each other in order to warrent any statistical differences. Hence, concept attainment in the areas of daily life, health, biology, economics, and astronomy are easier for primary school children. Children with low prolonged deprivation received better environmental incentives to be motivated for acquisition of new ideas. Hence, these children exceed the moderate and high deprivation groups. Similar was the trend for the moderate group over the high deprivation group. Grade 5 children with low deprivation effect are at the highest level of concept attainment, where as grade I children with high deprivational barrior are at the lowest level of functioning.

Educational level x Sex : In considering the interaction effect between educational level x sex, it is revealed that all the main effects for educational level were significant but in case of sex few were only significant. The interactions between variable were significant in the areas of daily life, social life, geography and natural resources. Mean scores for both the sexes increased with rise in educational level. The pattern indicated highest position to grade 5 boys and lowast level to grkade I girls. Hence, the overal pattern confirms the hypothesis accepted for investigation.

Prolonged deprivation effect x Sex : Again, it was hypothesied for significant interaction effect between prolonged deprivation effect x sex on attainment of concrete level concepts from different areas of environmental studies. It was expected that boys with low deprivation effect will exceed other boys and girls. Mean scores of boys are in accordance with the hypothesis. But the interaction effects are not significant. This may be due to non significant of main effect for sex. The interaction is significant only in case of social life. In this area boys exceed girls at the low deprivation level. But the findings are reversed in case of high deprivation level

Educational level x Prolonged deprivation effect *x* Sex : The last hypothesis of the present study was that there would be significant interaction effect among educational level *x* prolonged deprivation effect *x* sex in concept attainment scores. But due to non significant of main effect for sex, the interactions have not been significant except in

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the area of geography. But the overal trend indicates superiority of boys from low deprivation group over the moderate and high deprivation groups at each educational level. Similar was the trend for girls.

DISCUSSION

Following generalisations are made for the present study : Rise in level of education causes increase in concrete level concept attainment scores in different areas of environmental studies curriculum. Increased in prolonged deprivation effects causes decline in concept attainment scores in this level irrespective of areas of concepts Increase in difficulty areas of environmental studies curriculum indicates less of concept attainment scores by children belonging to different educational level and prolonged deprivation effect Sex as a variable in concept attainment scores has not been established.

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A Study of Field-Independence in Tribal and Non Tribal Children

Jai Prakash, Pramod Kumar Rai & M. K. Srivastava

Witkin's CEFT was adminsistered on samples of 120 tribal (Gond) and 120 non-tribal children of the both sexes in the age range of 12-14 years. Significant difference was observed on the Field-dependence variable in the tow groups. Results are discussed in the light of different socio-cultural practices prevalent in the two cultural groups.

INTRODUCTION

Social environment has been found to play a dominant role in the development of cognitive aspects of personality. Studies have shown that cultural or ethnic group differences are related to certain cognitive processes and abilities These differences are reported in the area of perception by Deregawaski and Byth (1970) and in mental abilities such as verbal reasoning number facility and space conceptualization by Lesser, Fifer and clark (1965). Witkin's (1962) concept of cognitive style can be considered as one of the important variables which are related to cross-cultural or ethnic group differences.

Different socialization practices in different cultural settings affect to a great extent the development of non-linguistic cognitive dimension (field-dependence/field independence) of personality. Cultural variables expressed in socialization practices contribute the variability in field independence (Majeed and Ghosh, 1983).

The cognitive style-field dependance-independance refers to self consistent patterns of thought and behaviour that individuals use when interacting with their environment Field dependence is refered to as the tendency of perceiving an item to apart of a field as merged with and dominated by its surrounding field. In field dependent mode of perceiving perception is guided by the organization of the field as whole. In field

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independent mode of perceiving perception is not only analytical but there is also a tendency to reorganize the elements of the field in a way. A person with a tendency towards perceiving discrete objects is called field independent. Cognitive styles are not only characteristic tendencies of individual's perceptual and intellectual activities but are also pervasive in their very nature.

The cultural settings in which there is strict conformity to family, social, religious and political authority as a salient characteristic foster the development of greater field dependence in children. In such cultural settings many taboos have been found to be strictly enforced by parental, religious and political forces. Dawson (.967) conducting studies on different African cultural groups maintains that relatively less tradition oriented cultures foster high levels of field articulation. Berry (1966) found more field Indepencence in subjects coming from transitional rather then traditional environment in sub-cultural groups of Scottish, Eskimo and Temne (African), Witkin, et. al (1973) conducted studies in such cultures where the pressures for conformity was relatively low and reported that in conforming cultures where authority of parents was dominating and taboos were strictly enforced, children were more field dependent than the average children in less conforming cultures.

Findings have suggested that the cultural settings with severe discipline, restricted exposure to novel experiences and limitations in independent behaviour of children, lead to greater development of field dependence in contrast to cultural settings which are less strict and encourage independent behaviour. In strict socialization practice group children were found to be more field dependent. It has also been found that differences in socialization practices (permissive and strict) in different cultural and sub cultural groups may be the adaptiva consequences of the ecological and economic differences. In India, Tribal children differ, to a great extent, from non tribals in respect of their mode of living, Socialization practices and cultural activities. Tribal people have remained backward for centuries. Due to their own cultural they have been segregated from the rest of the population of the countary. Though there is some change now in their way of living, clothing, and cultivation etc. due to cultural contacts. Yet they are primitive in their nature and culture.

The Gond 'tribe' is numerically the largest tribal group not only in central India but also in the whole of the country. There is no district in the M P. State where Gonds are not found. Gonds population comprises of 74% of the total tribal population in M.P. There are Gond sub tribes also such as Korker, Bharia, Bhumia, Ray Gond and Dhur Gond etc. Gonds are the most primitive. Only a few are engaged in cultivation while the majority earn their livilihood as farm servants and forest laboures. Gonds have been found to be lazy, easy going and averse to labour. They are primitive, conservative, traditional, superstitious in temperament and have low cultural status (singhl 1944). Magic and rituals are very common in them and there exists strong social conformity to parental authority religion norms etc. There are certain taboos associated with birth, infancy religion and social and customs which are enforced strictly by parental, social

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and political authorities. The socialization of tribal children occur under strict family, social and religious authority. Their freedom is restricted and they lack diverse type of experiences. They are mostly uneducated though the government is providing primary and secondary education free but these facilities are hardly utilized. Thus their way of living and culture is quite different from those of non tribal people.

An understanding of the possible psychological variables contributing to cross cultural ethnic-inter group differences in personality of Tribals deserves serious investigation. The purpose of this study therefore was to investigate the possiblity of differentiating patterns of field-dependence independence in tribal and non tribal boys and girls.

Hypotheses : The following hypotheses were formulated for their verification in the study :

1. There exists no significant difference in Tribal (Gond) and non tribal children in respect of Field-dependent Field independent cognitive style.

2 The tribal and non tribal children do not differ significantly on Field dependence if males and females are compared separately.

3. There exists no sex difference in tribal and non tribal children in respect of Field Dependence-Independence.

Sample : The main tribe which comprises about 74% of the total tribal population of M.P. is that of Gonds. Hence, the sample for the study was taken from the Gond children. 120 Tribal (Gond) children of both sexes in the age group between 12 to 14 years studying in 6th 7th grades were selected following the random sampling procedure from the distt. of Chhindwara of M.P. For the control group similarly 120 non tribal children of both the sexes matched for the age, class grades and economic status were also selected on random sampling basis. The distribution of children in Tribal and non Tribal groups is as follow :

	Male N	Female N	Total N
Tribal (Gond)	60	60	120
Non Tribal	60	60	120
Total	120	120	240

Tools : For the measurement of field Dependent/Independent Cognitive style a culture free children's embedded figure test was used. The test has been developed and standardized by Witkin, Raskin and Karp (1962). It is a non verbal perceptual test

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in which the subject's task is to find a simple figure seen previously embedded in a complex one. The rationable for using the test is that E.F.T. performance taps the tendency to function at a more differentiated or less differentiated level via perception. The difference in scores on E.F.T. signifies differentiation in perceptual functioning. The test measures Field dependent/field Independent mode of cognitive functioning in children. The test retest reliability o the test has been found to be .87 while the validity coefficient is ·85 when correlated with EFT.

Procedure : The CEFT was administered on each subject belonging to Tribal (Gond) and Non Tribal groups. On the basis of subject scores on CEFT, sten scores were calculated and children were classified as relatively field dependent or field independent. Significance of difference in Tribal and non tribal group for FD-FI cognitive style was calculated with the help of '*It*' test. It was also utilized for measuring the sex difference on field independence in both tribal and non tribal children.

RESULTS AND DISCUSSION

Table-1 : Showing Mean Scores, SED, significance of difference in tribal and Non Tribal children for FD/FI.

Group	N	Mean	SED	df	*It*	Sig.
Tribal	120	10·68	·35	238	15·4	·01
Non-Tribal	120	15·98				

Table 2 : Showing Mean Scores, SED and significance of difference in FD/FI in Male and Female Groups considered separately.

Group	N	Mean	SED	df	*It*	Sig.
Tribal Male	60	10·50	·51	118	13·33	·01
Non Tribal Male	60	17·30				
Tribal Female	60	10·80	·57	118	6·77	·01
Non Tribal Female	60	4·60				

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Table-3 : Showing Sex differences in tribal and non-tribal children on Field Dependence-Field Independence.

Group	N	Mean	SED	df	*It*	Sig.
Tribal Male	60	10·50				
Tribal Female	60	10·80	·45	118	·67	In Sig.
Non-Tribal Male	60	17 30				
Non-Tribal Female	60	14·60	·62	118	4·26	·01

A striking difference has been observed in the performance on CEFT in between Tribal and Non Tribal groups. Mean values obtained for tribal children is much lower than that of the non tribals. The 't' value clearly indicates that the difference between the two groups is highly significant. The null hypothesis (no, 1) formulated earlier that the tribal and non-tribal groups of children do not differ significantly in respect of field dependent-independent cognitive style is thus rejected. Tribal children have been found to be relatively more field dependent in comparison to non-tribal ones who are relatively field-independent. Remarkably significant difference has been observed on field-dependence in tribal and non tribal groups.

A close observation of the tribal family culture brings to light strict social, religious and family authority, Superstitious beliefs and various social religious taboos which are strictly enforced by the socialization process in the children. The exposure to diverse socio environmental experiences is also restricted due to their being culturally segregated. This affects to a great extent the development of field-independence in them. The result is that there develops greater field dependence in tribal children in contrast to non tribals where we find relatively permissive socialization practices, greater exposure to varied experiences and less superstitions behaviour resulting in the development of greater field independence in them.

Whether such significant differences on field independence in tribal and non tribal children also exist or not if male and female groups are considered seperately, further 't' values were calculated. (Table no. 2). The results show 't' values significant in both male and female groups. This suggests that if male and female groups of tribal and non tribal children are compared seperately there also significant difference are revealed in respect of FD-FI. Studies conducted in the west (Dawson 1967, Berry 1966, Witkin *et. al.* 1973), on field dependence independence in cultures where socialization practices were strict similar to that of tribals have also revealed greater field dependence in children

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in comparison to other consrasting cultures. The difference thus existing between tribal and non tribal groups of children on FD-FI appears to be the result of remarkable cultural difference in their socialization practices.

As regards the sex difference in tribal and non tribal groups on field independence-findings reveal significant difference in case of non tribal children (Table no. 3). Male children reflects relatively more field-independence than female. Results are in conformity with the findings of various studies conducted on sex difference in field-independence, in which males have been found to be more field-independent than their female counterparts. The sex difference in case of Tribal children has been found to be insignificant. Both male and female children of the tribal groups are field dependent and the difference found in the mean values is very low. The 't' value is not significant even at ·05 level of confidence. The cultural pattern thus appears to contribute equally to the development of Lield Dependence in both the sexes of tribal group.

To sum up, the results of the study suggest that children from tribal group differ from non tribal's in field dependence independence. Findings further lead to the conclusion that the cultural setting (as we find in case of the Tribal (Gond) children) where strict conformity to family, religious authority, discipline, restriction and severe strictness to traditions, supersitions and taboos are adhered to in the process of socialization, fosters the development of greater field-dependence in children. As regards the social and cultural change in tribals, it may be accomplished with a proper understanding of their cultural setting and by introducing better ways of living and broader out look of life.

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Effectiveness of Self-Learning Material in Teaching-Learning Process

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An experiment with a pre-test post-test control group design was performed to compare the effectiveness of self-Learning material and traditional method of teaching in 'Techniques of Teaching'. Sample consisted 70 students of both sexes from Faculty of Education. B. H. U. The data were analysed by the method of analysis of covariance and it was found that the performance of group taught through self-learning material was significantly higher than the performance the group taught the traditional method of teaching.

INTRODUCTION

Learning is an active process. But there is a little provision for the students activlty in our traditional method teaching, where all the students are treated as equal. All the human beings are not alike. Boys and girls do not learn in a similar way, nor to the same degree. So the method of teaching should be such that takes into account individual differences of students. Howes (1970) stated that "Learning is an individual activity; a personal matter. It can most efficiently and effectively be accomplished if the individual's own unique cognitive style is recognized and accomodated". Keeping individual differences in his mind, psychologist were busy for searching-out such a method that may provide opportunity to students to learn with his own pace and capacity. Programmed Instruction, Personalized System of Instruction and Computer Assisted Instruction are results of their efforts.

Many researches have been conducted to study the effectiveness of self-learning strategy, viz., Dessai (1966), Mehta (1973), Patel (1975). Mavi (1984), Chatterjee and Basu (1987). They found that self-learning strategy was more effective than traditional method of teaching. While Chen-Linc-Kulik (1982) and Kothari (1985) found that self-learning and traditional methods are equally effective. Most of these studies were conducted at the primary or secondary level. Few studies were conducted on student teachers, viz., Mullick (1964), Govinda (1976), Pandey (1981). They found that self-

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learning strategy was more effective than traditional method of teaching. But there still remains to add some more studies to this area for generalizing the conclusions. In the present study an attempt has been made to study the efficacy of self-learning material for secondary level prospective teachers.

Hypothesis : The null hypothesis formulated for this study reads as "there is no significance difference between post-test scores of experimental and control groups".

Sample : Two B. Ed. section, (Sec.-A; Experimental and Sex. B-Control group) each consisted 80 students of faculty of education B. H. U., were chosen for conducting research. Both the groups were matched on the basis of B. Ed. intrance examination scores. Analysis of variance was applied to test the homogeneity of the two groups. Table-1 represents the summary of Analysis of variance.

Table 1.0 Summary of Analysis of Variance

Source of variation	df	SS	SSm	F
Between Groups	1	83.03	83.03	0·099 N. S.
Within Groups	68	56650·77	833·099	

N. S.=Not Significant.

The above table shows that F-value is not significant. Therefore, it can be concluded that the difference between the mean of the two groups is not significant and hence both the groups are homogenous.

Finally, these students were included in the sample of both sexes who were present during all the lessons and responded the pre and post-tests. Thus the final sample consisted of 38 students in experimental group and 32 students in controlled group.

TOOLS

(i) *Self-learning Material* : Self-learning material based on the paper 'Techniques of Teaching' prescribed for B. Ed. course was developed by investigator on 32 small units. The self-learning material was followed in this sequence-instructional objectives of the unit-presentation of content. —Testing questions, and—Feedback for the correctness of responses.

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(ii) *Criterian Test* : The criterian test, covering all the 32 units was prepared by investigator to measure the achievement of the subjects. This test consisted of 114 multiple choice items. The reliability of test was found to 0·76.

Procedure : On the very first day both the groups were pre-tested to know the entering behaviour of subjects. After this experimental group was given self-learning material for 32 days. It was given to all students and they were asked to go through it, answer the testing questions and to return it to the investigator at the end of the period. Controlled group was taught through traditional method of teaching by the investigator himself. At the end of the experiment both the groups were given criterian test. Scores on this test served as the post-test data.

RESULTS AND DISCUSSION

Respective treatment were applied to two groups of subjects. Scores on criterion test were obtained at the end of the experiment. In the present research it was not possible to compare the group means directly because the subjects were not assigned to treatment groups at random. The groups might differ in their initial achievement and this initial achievement might be correlated with achievement on the criterion post-test. In such a case, it cannot be inferred whether the extent to which differences in criterian post-test result from different teaching strategies or from any other uncontrolled factor significantly correlated with the test for measuring the entering behaviour of subjects (pre-test). Since measure of entering behaviour as manifested by pretest score was available, the analysis of covariance was applied to compare the differences in post-test means between two groups with the influence of initial achievement statistically controlled. Summary of Analysis of covariance is shown in table 1.1

Table 1.1 Summary of Analysis of covariance

Source of Variation	df	SS	Residuals MSS	F	p
Between Groups	1	791.94	791.94	10.87	0.01
With-in Groups	67	4880.57	72.84		
Total	68	5672.51			

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The above table shows that F is significant at 0.01 level, which means there is significant difference between two groups. Hence null hypothesis is not retained on the criterian test. The mean score of the group taught through self-learning material (M=69.75) is higher than the mean scores of the group taught through traditional method of teaching (M=63.75).. It can be concluded that self-learning material is better than the traditional method of teaching. This result is in agreement with the conclusion drawn Govinda (1976), Sansanwal (1978) and Pandey (1981).

The reason for such a result may be manyfold-First, since the student are opportunitised for self-pacing under the self-learning material, they do not feel disgusted and, thus they are constantly motivated, this might possibly have been the cause of the effectiveness of self-learning material. Second, students are kept busy with reading and writing answer to the testing questions in the self-learning material, this might have attributed to their efficient learning and, thus, to the effectiveness of such strategy. Third, students were observed to be more insterested and enthusiastic in getting the well-prepared, systematically organised and fairly cyclostyled materials, this might have maintained their motivation alive through-out and, thus, the effectiveness of self-learning material. Forth—'Hawthron effect', might have worked with experimental group and therefore, they worked more actively and enthusiastically for learning the material through the new method. Perhaps a combination of some or all the these factors herein might have contributed for the effectiveness of self-learning material.

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Influence of Intelligence, Sex and Their Interaction Different Areas of Vocational Interest

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INTRODUCTION

The progress of a nation depends upon the man power engaged in different vocations. The technological development has given birth to a large number of vocations. The performance of human being in a vocation depends on his interest in the vocation. In other words, a person is likely to work at the maximum efficiency level provided he has a interest in it. Further the person with an interest in a vocation will get the maximum benefit from the training in the vocation. The right choice of vocation will also help in better adjustment of the person. Thereby various will not arise. Researchers have attempted to find out the influence of various factors on vocational interest (Pandey, 1960; Bardhan, 1965; Patel, 1967; Singh, 1967; Bhojak and Mehta 1969; Grewal, 1971; Sinha, 1978). Pandey (1960) reported that adolescence prefferred government service to any other vocation even though the starting salary might be the same. Bardhan (1965) observed that the boys interests were found to be stable from class VIII onwards. Patel (1967) found that the difference in interest on the basis of age and sex were significant. Singh (1967) reported that vocational interests were not directly related to the educational interests. The subject courses offered and the educational interests of male students differed significantly with regard to their educational interests in scientific & constructive areas but had more or less similar interests as regards, literary, commercial, aesthetic and agricultural vocations. Significant zonal differences in educational interests of female students existed for the aesthetic and literary groups. But in the scientific, commereial, constructive and agricultural areas, the females of both zones seemed to be equally interested. Significant differences in vocational interests of male students for literary, scientific, commercial, constructive, aesthetic, agricultural, social service and household vocations existed and interest in persuasive vocations was equal. Bhojak and Metha (1969) found that preferences of all groups in social service, scientific, computational and literary; and the mean differences between male and female students significant in musical, artistic, and mechanical areas. Boys differed significantly from girls in their level of vocational preferences (Grewal, 1971).

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Family environment was found to influence the vocational interest of intermediate students Sinha, (1978). From these studies it is evident that the findings are inconsistent. So keeping in mind the importance of vocational interest and consistency in finding the present study was undertaken.

Objectives : The following were the objectives of the study :

1. To study the influence of sex on different areas of vocational interest.
2. To study the influence of intelligence on different areas of vocational interest.
3. To study the influence of interaction between sex and intelligence on different areas of vocational interest.

Hypothesis : The following null hypothesis were stated :

1. There is no significant influence of sex on different areas of vocational interest viz Literary, Scientific. Executive, Commercial, Constructive, Artistic, Agriculture, Persuasive. Social and Household.

2. There is no significant influence of intelligence on different areas of vocational interest. viz. Literary, Scientific, Executive, Commercial, Constructive, Artistic, Agriculture, Persuasive, Social and Household.

3. There is no significant influence of interaction between sex and intelligence on different areas of vocational interest, viz. Literary, Scientific, Executive, Commercial, Constructive, Artistic. Agriculture, Persuasive, Social and Household.

Sample : The purposive sampling technique was employed for selecting the sample. The sample consisted of 110 Class XI students, studing in urban schools. Out of 110, 55 were males and the remaining were females. Male students belonged to R R.M B. Gujarati Higher Secondary Schools. Where as female students were from Shri K.B. Patel Gujarati Girls Higher Secondary School. Both these schools were situated in the city of Indore. The medium of instruction was Hindi. The students represented the average and below average socio-economic status.

Tools : The vocational interest and intelligence were the variables which were measured with the help of standardized tools. The vocational interest was assessed with the help of vocational interest record developed by S.P. Kulshrestha. This record measured interest in ten areas. namely, Literary, Scientific, Executive, Commercial, Constructive. Artistic, Agriculture. Persuasive, Social and Household. The testretest reliabilty coefficient was 0·49. The intelligence was measured with the help of verbal intelligence test developed by Ojha and Ray Choudhary. The time limit for the test was 40 minutes.

Procedure of Data Collection : The present study was a correlational survey type. Before administering the psychological tests the rapport was stablished with the students. The students were comfertably seated. The vocational interest test was administerd to the students. The students were given instructions in respect of vocational interest record As soon as the students understood the instruction they were asked to start the

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test. They were also instructed that that can take as much time as they like. The students took ronghly 20 minutes. On the next day the verbal intelligence test was administered. After distributing the test booklets the students were instructed to read the instructions given in the test booklet. The investigator made sure that students understood the instructions. They were told that the time limit for the test was 40 minutes. They were asked to start the test and the answer-sheet alongwith test booklets were collected at the end of 40 minutes. The scoring of vocational interest record and verbal intelligent test were done as per instructions given in the manual.

Statistical Analysis : The Data were analysed with the help of 2×3 Factorial Design ANOVA of unequsl cell size.

RESULTS

Effects of Sex, Intelligence and their Interaction on Literary Interest : The first objective of the investigation was to study the effect of sex, intelligence and their interaction on literary interest of class XI students. The data related to this objective were analysed by using 2×3 Factorial Design ANOVA of unequal cell size. The results are given in Table-1.

Table-1 : Summary of 2×3 Factorial Design ANOVA For "Literary Interest".

Source of Variance	df	SS	MSS	*F*-Value
Sex	1	1·89	1·89	0·14
Intelligence	2	11·99	5·99	0·45
Sex X Intelligence	2	14·20	7·1	0·54
Error	104	1359·89	13·07	

From Table-1, itcan be seen that all the F-Values are not significant. It reflects that there is no significant influence of sex, intelligence and interaction between sex and intelligence on literary interest of students. In the context of this the null hypothesis namely, there is no significant influence of sex on literary interest; intelligence on literary interest; and interaction between sex and intelligence on literest are not rejected. It may, therefore, be said that literary activity is independent of sex, intelligence and their interaction.

Effect of Sex, Intelligence and their Interaction on Scienutific Interest : Sex and intelligence were the moderate variables and scientific interest the dependent variable. Male and female were the two levels of sex and inteligence was split into three groups,

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namely high intelligence, average intelligence and low intelligence. The data were analysed with the help of 2×3 Factorial Design ANOVA of unequal cell size. The results are given in Table-2.

Table-2 : Summary of 2×3 Factorial Design ANOVA for Scientific Interest.

Source of Variance	df	SS	MSS	*F*-Value
Sex	1	125·45	125·45	3·84*
Intelligence	2	30·77	15·38	0·47
Sex X Intelligence	2	44·65	22·32	0·68
Error	104	3390·04	32·59	

* Significant at 0·05 level.

From Table-2, it can be seen that the F-Value of 3·84 for sex is significant at 0·05 level with df=1/104. It shows that the mean scientific interest scores of males differ significantly from that of females. Thus the null hypothesis, namely, there is no significant influence of sex on scientific interest is rejected. Further the mean scientific interest score of males was significantly higher than those of females. It may, therefore be said that males nad higher scientific interest in comparison to females. Further, the *F*-Values for intelligence and intelligence and interaction between sex and intelligence are not significant. It reflects that intelligence as well as the interaction between sex and intelligence did not influence significantly the scientific interest of students. Thus the null hypothesis that there is no significant influence of intelligence and interaction between sex and intelligence on scientific interest is not rejected.

Influence of Sex Inteligence and their Interaction on Executive Interest : As mentioned before there were two levels of sex and three levels of intelligence. Here the dependent variable was executive interest. The data were analysed with the help of 2×3 Factorial Design ANOVA of unequal cell size. The results are given in Table-3

Table-3 : Summary Of 2×3 Factorial Design ANOVA For "Executive Interest".

Scoure of variance	df	SS	MSS	*F*-Valve
Sex	1	50·18	50·18	2·05
Intelligence	2	15·62	7·81	0 320
Sex X Intelligence	2	38·81	19·40	0·79
Error	104	2535·8	24·38	

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From Table-3, it can be observed that none of the *F*-value is significant. It points out that there is no significant influence of sex, intelligence and their interaction on executive interest of students. In the light of this the null hypothesis that there is no signficant influence of sex, intelligence and interaction between sex and intelligence on executive interest of students is not rejeated. It may therefore be said that executive interst of students was independent of their sex, intelligence and the interaction between sex and intelligence.

Influence of Sex, Intelligence and their interaction on Commercial Interest : There were to levels of sex and three levels of intelligence. The commercial interest was the dependent variable. The data related to commercial interest were analysed with the help of 2 × 3 Factorial Design ANOVA of uneqal cell size. The results are given in Table-4.

Table-4 : Summary of 2 × 3 Factorial Design ANOVA for Commercial Interest :

Source of Variance	df	SS	MSS	*F*-Value
Sex	1	17·98	17·98	1·42
Intelligence	2	37·39	18·69	1·47
Sex × Intellgence	2	32·82	16·41	1·29
Error	104	1315·54	12·64	

From Table it 4 is evident that all *F*-values are not significant. It reflects that there is no significant influence of sex, intelligence and their interaction on commercial interest of students. Thus the null hypothesis that there is no significant influence of sex, intelligence, and their interaction on commercial interest of students is not rejected. It may, therefore, be said that the commercial interest of XI class students did not depend on sex, intelligence and interaction betweed sex and intelligence.

Influence of Sex, Intellgence and their Interaction on Constructive Interest : The sex and intelligence of studentss were the moderate variabjes having two and three levels respectively. The dependent variable was the help of 2 × 3 Factorial Desigen ANOVA of unequal cell size. The results are given in Table-5

Table-5 : Summary of 2 × 3 Factorial Design ANOVA for Constructive Interest.

Source of Variance	df	SS	MSS	*F*-Value
Sex	1	17·98	17·98	1·42
Intelligence	2	37·39	18·69	1·47
Sex × Intelligence	2	32·82	16·41	1·29
Error	104	1315·54	12·64	

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From Table-5 it can be seen that all the *F*-Value are not significant. It implies thet the mean constructive interest scores of students belonging to different levels of sex as well as intelligence did not differ significantly. That means there was no significant influence of sex, intelligence and their interaction on constructive interest. In the light of this the null hypothesis there is no significant influence of sex, intelligence and their interaction on constructive interest is not rejected. Thus the constructive interest was found to be independent of sex, intelligence and the interaction between sex and intelligence.

nfluence of Sex, Intelligence and their interaction on Artistic Interest : The males and females were the two level of sex while high average and low intelligence were the three levels of intelligence. Artistic interest was the dependent variable. The data related to artistic interes were analysed with the help of 2×3 Factorial Design ANOVA of unequal cell size. The results are given in Table-6.

Table 6 : Summary of 2×3 Factorial Design ANOVA for Artistic Interest.

Source of Variance	df.	SS	MSS	*F*-Value
Sex	1	71·48	71·48	4·88**
Intelligence	2	11·51	5·75	0·39
Sex×Intelligence	2	42·44	21·22	1·45
Error	104	1522·03	14·63	

** Significant at 0·01 level.

From Table-6, it can be seen that the *F*-value of 4·88 for sex is signicant at 0·01 level with df=1/104. It shows that the mean artistic scores of males and femals differ significantly. It implies that the sex influences significantly the artistic interest of students. Thus the null hypothesis. that there is no significant influence of sex on artistic interest is rejected. The artistic interest mean score of females is significantly higher then those of males. It indicates that the females were found to have significantly higher artistic interest in comparison to makes.

The remaining two *F*-values are not significant (Vide table 6). It indicates that the mean artistic interest scores of students belonging to different levels of intelligence do not differ significantly. Also the interaction between sex and intelligence do not differ significantly. Also the interaction between sex and intelligence do not influence significantly the artistic interest of students. In this context the null hypothesis, namly. there is no significant influence of intelligence and interaction between sex and intelligence on artistic interest of students is not rejected. That is to say that the artistic interest did not depend on intelligence and the interaction between sex and intelligence but it did depend on sex of students.

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Influence of sex, Intelligence and their Interaction on Agriculture Interest: The sex and intelligence were the moderate variables with two and levels respectably. Agriculture interest was the dependent variable. The data were analysed with the help of 2×3 Factorial Design ANOVA of unequal cell size. The results are given in Table-7

Table-7 : Summary of 2×3 Factorial Design ANOVA for Agriculture Interest.

Source of variance	df	SS	MSS	*F*-Value
Sex	1	21·14	21·14	2·24
Intellience	2	14·23	7 115	0 75
Sex × Intelligence	2	4·41	2·20	0 23
Error	104	280·77	9·43	

All the *F*-values are not signifiant (vide table-7). It indicates that me n agriculture scores of students did not differe significantly with respect to sex and intel gence. It implies that there was no significant influence of sex and intelligence on agricluture tnterest of students. Also the interaction between sex and intelligence did not influence the ariculture interest of stndents because the *F*-value is not significant. Thus the null hypothesis, namely, there is no significant influence of sex, intelligence and interaction between sex and intelligence on agriculture interest of students is not rejected

Influence of sex, Inteiligence and their intraction on persuasive interest: The moderate variables were sex and intelligence. The males and females were the two levels of sex whereas the three levels of intelligence were high, average, and low. The persuasive interest was the dependent variable. The data were analysed with the help of 2×3 Factorial Design ANOVA of unequal cell size. The results are given in Table-8.

Table-8 : Summary of 2×3 Factorial Design ANOVA for Persuastve Interest.

Source of Variance	df	SS	MSS	*F*-value
Sex	1	65·17	65.17	6·24**
Intelligence	2	27·77	13·88	1·32
Sex X Intelligence	2	26·35	13·1	1·26
Error	104	1086	10·44	

** Significant at 0·01 level.

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From Table-8 it can observed that the *F*-value of 6.24 for sex is significant at 0·01 level with df=/104. It shows that the mean persuasive interest score of males differ significantly from females. It implies that sex influences significantly the persuasive interest of students. Hence the null hypothesis that there is no significant influence of sex on persuasive interest of student is rejected. Further the mean persuasive interest scores of females is significantly higher than that of males. It reflects that persuasive interest dominates females rather than males. The remaining two *F*-values are not significant (Vide table-8) Indicates that the mean persuasive interest scores of students belonging to different levels of intelligence do not differ significantly among themselves. It shows that the intelligence did not influence the persuasive interest of students. The same is the position with respect to the influence of interaction between sex and intelligence on persuasive interest. Thus the null hypothesis that there is no significant influence of intelligence and interaction between sex and intelligence on persuasive interest of students is not rejected. From here it may be said that persuasive interest did not depend on itelligence and interaction between sex intelligence but it did depend on sex of students.

Influence of Sex, Intelligence and Their Interaction on Social Interest: The sex and intelligence were considered as moderate variables and social interest as dependent variable. The data were anelysed with the help of 2×3 Factorial Design ANOVA of unequal cell size. The results are given in Table-9.

Table-9 : Summary of 2×3 Factorial Design ANOVA For Social Interest.

Source of Variance	df	SS	MSS	*F*-value
Sex	1	23·51	25·31	1·04
Intelligence	2	144·38	72·19	2·99
Sex X Intelligence	2	25·56	12·78	0·52
Error	104	2509·17	24·12	

From Table-9, it is evident that none of the three *F*-values are significant. It implies that there was no significant influence of sex, intelligence and the interaction between sex and intelligence on social interest of students. In this context the null hypothesis that there is no significant influence of sex, intelligence and interaction between sex and intelligence on social interest of students is not rejected.

Influence of sex Intelligence and Their Interaction on House-hold Interest: The male and female were two levels of sex, whereas intelligence has three levels, namely, high, average, and low. House hold interest was the dependent variable. The data were analysed with the help of 2×3 Factorial Design ANOVA of unequal cell size. The results are giveh in Table-10.

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Table-10 : Summary of 2X3 Factorial Design ANOVA for House-hold interest.

Source of Variance	df	SS	MSS	F-Value
Sex	1	1393·68	1393·68	65·43**
Intelligence	2	5·68	2·84	0·133
SexXIntelligence	2	7·57	3 78	0·177
Error	104	2216·23	21·30	

** Significant at 0·01 level.

Tne F-value for sex is 65·43 (Vide Table-10). Which is significant at 0 01 level with df=1/104. It reflects that the mean house hold interest scores of males differ from those of females. This means that sex influence the house hold interest of Students. Therefore the null hypothesis that there is no significant influence of sex on house hold interest is rejected. Further, the mean house hold interest score of females is significantly highers than those of males. It implies that the house hold interest dominated in females rather than males.

The remaining two *F*-values are not significant. It shows that the intelligence and the interaction between sex and intelligence did not influence the household interest. Thus the null hypothesis that there is no significant influence of intelligence and interaction between sex and intelligence on house hold interest of students is not rejected. Thus the house hold interest was independent of intelligence and interaction between sex and intelligence but it did depend on sex.

DISCUSSION

The sex was found to influence the vocational Interest of students. This finding has been supported by Bardhan (1965), Patel (1967), Singh (1967), Bhojak and Mehta (1969) and Grewal (1971). The males were found to have interest in the scientific area whereas females dominated males in vocational interest areas like Artistic, Persuasive and house hold. On the remaining areas, namely, Literary, Executive, Commercial, Constructive, Agriculture and Social both males and females had interest to the same degree. females had interest in Artistic, Persuasive and House Hold, areas because our traditions are such that the females are given training right from the begivning in those areas which will help her in better adjustment in other families. On the other hand the males dominate females in scientific areas it may be because in general the males are more intelligent, hard working, creative etc.

The intelligence did not influence the vocational interest of students. The present study was conducted on school going children whose age ranged from 14 to 16 years. At this age it may be possible that the children do not think about the vocations in which

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they like to go. They rather use their intelligence in working hard so as to get good marks in the board examination. They do so because they are aware that their performance at the board examination influence their choice for the course of study. That means the intelligence may influence the vocational interest of the students In the present study the intelligence did not influence the vocational interest. It may be because the sample size was small and therefore their were less number of cases in different levels of intelligence.

There was no significant influence of interaction between sex and intelligence on vocational interest. That means a specific vocational interest was not found to be dominated in a male or female belonging to different levels of intelligence. The reason may be that the sex and intelligence might have not been related in the present sample and therefore the interaction between them did not take place. Thus, there was no influence of interaction on vocational interest.

CONCLUSION

The following conclusions were arrived at :

1 Sex was found to influence vocational interest of students. Females were found to dominate males in areas of Artistic, Persuasive and House Hold interests whereas males dominated females in scientific interests.

2. Intelligence did not influence significantly the vocational interest.

3. The interaction between sex and intelligence did not influence the vocational interests.

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Concept Formation in Socially Deprived and Non-Deprived Children

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A factorial design of 2 × 2 was employed for the present study with factors deprivation and sex. A sample consisting of two hundred subjects, hundred boys and hundred girls, ranging between the age group of fourteen-fifteen years, from deprived and non-deprived sections were administered Prolonged Deprivation Scale to delinnate the deprived and the non-deprived. The final sample consisted of sixty subjects, fifteen in each cell. These subjects were the administered Kasanin and Hoffman Concept Formation Test and Psycho Centre Concept Formation Test to study the relationship between concept formation and social deprivation in socially deprived and non-deprived males and females. Results showed significant relotian between concept formation and social deprivation with socially deprived children obtaining significantly lower score on concept formation tasks as compared to their non-deprived counterparts No significant relation was revealed between concept formation and sex within a social group. However, the diffeerence between concept formation scores of males ane females from different social groups were found to be significant.

INTRODUCTION

According to Piaget (1957) concept is an explanatory rule, or law which a relation between two or more events may be described and they are abstract forms of past experience. The process by which a person develops a common responses to a general class of objects. which despite their differences in details have certain features in common is called Concept Formation. Klaus and Gray 1972) define concept formation as the identifying of common characteristics in different aspects and event and the applying of a common label.

Concept are formed by the process of comparison and abstraction. As we compare the different object, we note that they differ in some respectse and resemble in others We abstract or drop out the differences and consolidate the identical qualities into a whole. Concept formation is a learning task abilty and is a pre-requisite requirement in

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the early years of life. Piaget (1928) observed that very young children are very egocentric, confusing external happenings with their own imaginations. Slightly older children, however become more rule conscious till finally comes the stage at which rules of the game become all important and inflexible.

The nature of environment provides the necessary sensory inputs, stimulation and experiential base for the development of perceptual skills of various kinds. These environmental factors play a significant role in the development of concept formation. Deprivation has been equated with failure to provide opportunities to have experience (Gordon, 1965), insufficient satisfaction of basic psychological needs (Keith and Kraft, 1968), deficiencies in experiences and conditions of learning (Misra and Tripathi, 1977) and a condition in which particular external and internal factors merge to narrow a person's behaviour or alternatives for achieving self fulfilment (Sinha, 1977).

Children from disadvantaged families are deprived of many experiences that are available to children from advantaged families. Stimulus materials and interactions with adults are at a minimum in the lower class environmental. Children from such a culturally deprived milieu are disadvantaged from the start in terms of cognitive growth.

Havighurst and Breeze (1947) found that children of non-deprived families were significantly superior to those of deprived families in each of the Thurstone tests of Primary Mental Abilities. In a study done by Tripathi and Misra (1976) it was found that deprivation of various kinds such as sensory, muscular, social, parental, cultural and economic results in deficient cognitive functioning, especially in complex perceptual tasks and conceptualization. Some of the revealing components of Prolonged Deprivation significantly related to concept formation are emotinal exprience, home environment, global prolonged deprivation, economic sufficiency and food intake Consequently their effects upon the learning experiences are crippling (Bhargava and Marwah, 1982). The correlation between deprivation and categorization was significant in a study done by Merello (1983).

It has been generally observed that children in India are subjected to differential experiences not only on the basis of class, but also on the basis of sex Concept formation correlates moderately with sex differences. The term 'sex role' is used so as to refer to the collection of behaviours, occupations and personality characteristics which are popularly regarded as sex typical, or as primariate for one sex or orther. Girls appear to develop stronger reading and formal language skills at an early age then boys (Maccoby and Jacklin, 1974).

Kogan (1974) in his study found that no systematic sex difference occur in the level of cognitive task performance. Peterson (1976) in his study found that female mean gain scores were significantly higher then the male mean gain scores on concept formation. Henkin (1978) studied that there does not lie a significant relationship between

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males and females in concept attainment. Potrapis and Hanson (1981) in their study found that no significant difference exist between men and women in the masculine and and rogynous groups did not differ from each other in cognition.

The above review of researchers does not settle the issue of sex differences. There exist studies both indicating that sex differences in favour of males and females and those that indicate no differences in cognitive performance in children. The present study endeavours to study if there exist sex differences in concept formation in children.

AIMS AND HYPOTHESES

1. *Aims* : The objectives of the present investigation were to study the effect of prolonged social deprivation and sex upon the concept formation of children. It is a basis assumption of the study that lower levels of concept formation are attributed to continuous interactions between individuals and the situations they encounter. These environments have been categorized as prolonged social deprivation and non-deprivation in the social environment of the children. It has been seen that families from different social backgrounds construct divergent environments which affect the level of the concept formations in children.

Children from deprived social background are poor in concept formation, due to the fact that there kislac of enriched environment, low income, single parents, poor housing and improper education. Children from deprived environment score low in concept formation (Passow *et al*. 1967). Further possibilities show that children from non-deprived backgrounds are provided with facilities so as to make them capable of making perceptual discrimination among physical objects in the environment, deal with the pictorial representation of objects and actions, and to enable them to conceptualize.

Hypotheses : On the basis of review of literature, the following hypotheses are put forth :

(i) Socially non-deprived children will perform better on concept formation tasks as compared to their deprived counterparts. (ii) A null hypothesis has been extended for sex differences in concept formation in children. Socially non-deprived males will perform better than deprived females on concept formation tasks.

METHODOLOGY

Design : A factorial design of 2×2 was used for the present study. The factors used were deprivation and sex and the final four cells consisted of socially deprived males and socially deprived females, socially non-deprived males and socially non-deprived females. A tabular representation of the design is given below :

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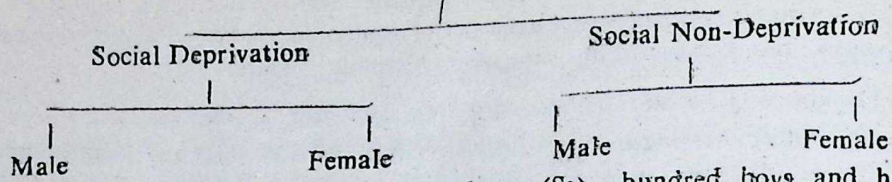

Sample Selection: Two hundred subjects, (Ss). hundred boys and hundred girls ranging between the age group of 14-15 years were selected from different government schools in Chandigarh following the randomisation procedure. Tool used for sample selection was Prolonged Deprivation Scale, PDS (Misra and Tripathi, 1977) to delineate socially deprived Ss from non-deprived Ss. The PDS was administered to 200 Ss, having different social backgrounds in small groups of 25 students. To test the homogenity of the sample t-ratios were calculted for males and females on PDS. They however revealed no significant differences.

Criteria for final sample selection was mean + lsd. Mean and SD of 200 Ss was calculated and using the above mentioned criteria, Ss were differentiated into deprived and Non-deprived males and females. Ss both males and females, socially deprived and non-deprived were differentiated into the four cells of the factorial design 2×2 with each cell containing 15 Ss, finally, yielding a sample of 60 Ss.

Final study: The following two tools were used with the final sample to test the level of concept formation in children.

(i) *Concept Formation Test (Kasanin and Hoffan, 1941)*: This test taps on two aspects of concept formation i.e. height and size.

(ii) *Concept Formation Test (Psycho) Centre*: This test taps on the taps on the aspect of class. Both the tests of concept formation were administered to children individually No time limit was prescribed for both the tests as the time taken for each set varies. The indices of performance for both the tests were taken in the form of number of trials/errors and total time taken to complete the task successfully.

RESULTS

The raw scores were treated for statistical analysis by calculating mean, standard deprivation, t-ratio and ANOVA.

Tables I and II give details of the main effects and interactions for the variables deprivation and sex.

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Table-I : ANOVA For Kasanin and Hoffman Concept Formation Test in Deprived, Non-Deprived Males and Females.

	Time Taken in Seconds				No. of Trials			
	df	SS	MSS	*F*-Value	df	SS	MSS	*F*-Value
TSS	59	3514040·00	595600·00		59	1564·73	26·52	
WSS	56	25505980·00	276892·50		56	711·33	12·70	
BSS	3	19634420·00	318708·00		3	853·40	284·46	
Main Effects								
Deprivation	1	19307490·00	19307490·00	69·72**	1	836·26	836·26	65·83**
Sex	1	311334·40	311334·40	1·124	1	·06	·06	·01
Interactions								
Derpivation X Sex	1	15594·79	15594·79	·056	1	17·06	17·06	1·34

** p∠·01

Table-II : ANOVA For Psycho Centre Concept Formation Test in Deprived/Non-Deprived Males and Females.

	Time Taken in Srconds				No. of Errors			
	df	SS	MSS	*F*-Value	df	SS	MSS	*F*-Value
TSS	59	6787662·00	115045·10		59	818·18	13·86	
WSS	56	4005548·00	71527·63		56	527·33	9·41	
BSS	3	2782114·00	43517·47		3	290·85	96·95	
Main Effects								
Deprivation	1	2678017·00	2678017·00	37·44**	1	286·01	286·01	30·37**
Sex	1	58283·07	58283·07	·815	1	2·81	2·81	·29
Interactions								
Deprivation X Sex	1	45814·97	45814·97	·641	1	2·01	2·01	·21

** p∠·01

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As evident from the F-values, variable of deprivation is highly significant. In other words, non deprived children are superior in their performance on concept formation tasks as compared to the deprived. However, the variable of sex did not reach the level of significance.

Interactions : The inter-active effect between the variables of deprivation and sex did not reveal any significant F ratio. However, when the t-ratios were calculated for the different groups of the study, deprivation and sex did reveal significant interactive effect upon concept formation in children (See Table III).

Table-III : t-Ratios For Deprivation and Sex For Time Taken and Number of Trials/Errors on Two Concept Formation Tasks.

SR. No.	Interactions	Kasanin and Hoffman Concept Formation Test		Psycho Centre Concept Formation Test	
		Time Taken in Seconds	No. of Taials	Time Taken in Seconds	No. of Errors
1.	Deprived Males X Deprived Females	·760	·729	·869	·525
2.	Deprived Males X Non-Deprived Males	5·10**	4·88**	4·46**	3·96**
3.	Derived Males X Non-Deprived Females	6·27**	5·78**	4·53**	4·03**
4.	Deprived Females X Non-Deprived Males	5·51**	5·69**	4·11**	3·73**
5.	Deprived Females X Non-Deprived Females	7·51**	6·59**	4·21**	3·83**
6.	Non-Deprived Males X Non-Deprived Females	·788**	1·01	·256	·152

** $p < .01$

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DISCUSSION

The study focussed on the relationship between the level of concept formation and the variables of deprivation and sex. Results revealed significant relation between concept formation and social deprivation with socially deprived children obtaining significantly lower scores on concept formation tasks as compared to their non-deprived counterparts. No significant relation was revealed between concept formation and sex within a social group. However, the differences between concept formation scores of males and females from different social groups were found to be significant.

1. *Social Deprivation and Concept Formation*—Results of the present investigation support the hypothesis put forth earlier that "socially non-deprived children will perform better on concept formation tasks as compared to their deprived counterparts". Findings of Havighurst and Breeze (1947).

Bhatia (1955), Werner and Murlidharan (1970), Das (1973), Sinha and Shukla (1974), Misra and Tripathi (1980), Bhargava and Marwah (1982) and Merello (1983) bring forth the negative effect of social deprivation on development of cognitive skills in children and therefore, substantiate the results of the study. The various contributing factors bringing about this significant difference in concept formation in favour of the non-deprived Ss could be due to various factors.

The more experiences we give the child at an early stage, the richer is the divident and the child is able to solve problems in a more effective manner (Murlidharan, 1969). In a study done by Passi (1987) it was found that inadequate care during this period produces irreversible effects on concept formation.

In a study done by Fried (1974) it was found that there was a significant difference in the home environment of the economically disadvantaged population. Misra and Tripathi (1977) have found a powerful levelling influence of schooling which reduced the performance difference of socially disadvantaged children. Rath and Patnaik (1979) examined the effect of the training on cognitive abilities of deprived and non-deprived children and concluded that both groups scored significantly higher after training.

Evidence from research findings brings forth the view that there exists differences in disciplinary techniques. Socially deprived mothers make use of physical assertion more than socially non-deprived mothers who rely on psychological punishment (Hoffman, 1960). Psysically assaulted children score lower on measure of concept formation tasks (Burges and Conger, 1981).

Erikson (1969) in a study of child rearing in relation to social status found that non-deprived families were generally found to be more exacting in their attitudes and expectations concerning their children then deprived families. Parents of deprived environment make no conscious effort to provide cognitively stimulating environment at home conducive for concept formation.

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Cognitive theorists (Koep, 1973, Dinner, 1976) also emphasize that much learning occurs through spontaneous discovery. Lack of motivation is a constant obstacle to getting through the disadvantaged children, who see little relevance in acquisition of concepts. Thus, the different issues which could have accounted for difference due to social deprivation in cognitive abilities can be the different social class experiences and demands nature of the authority, social class related values and attitudes which give rise to different child rearing practices and disciplinary techniques thus affecting the quality of the home environment conducive to concept formation in children.

2. *Sex and Concept Formation* : A null hypothesis was extended for sex differences. The results of the present investigation revealed no sex differences in concept formation in children. The findings of the study are in favour of Raaheim (1963), Hoffman and Maier (1966), Mendelsohn *et. al.* (1966), Davis (1967), Kumar (1980) and Marjoribanksi (1981) who in their studies found that their lie no sex differences in the cognitive abilities of boys and girls. The reasons accounting for no sex differences within the two groups, deprived and non-deprived might be because of the small size of the sample limited to only sixty students, educational opportunities same for males and females, a lot of encouragement being given to the daughters regarding their academic qualifications from the educated mothers of today.

3. *Interactive Effect of Deprivation and Sex on Concept Formation* : The findings of the present study support the hypothesis put forth earlier that "Non-deprived males will perform better than deprived females". Results can be supported by the study done by Loyche (1974) that experimentially advantaged boys did better than the experientially disadvantaged girls on concept formation tasks. The various reasons accounting for these differences could be as follows : The difference between males and females on genetic basis relates to the pattern of abilities which have been biologically determined. As far as elementary abilities are concerned, females are superior to males in auditory discrimination while males are superior in visual discrimination (Tyler, 1965).

Studies cited by Terman and Miles (1937), Sheldon (1940) and Marquis indicate that some relationship between physical and psychological variables exist. They gave personality tests to a large population of adolescent girls and found reliable differences in the responses. Nance and Sinnott (1964), Lonke (1970) and Deaux and Emsueiller (1975) in their studies found that sex differences in the are primarily a matter of attitudes towards cognitive abilities and its susceptible to training and practice. It is likely, however, that social decisions based on any real or mythical biological influences on sex related differences have far more impact on the daily lives of males and females. Boys are given more freedom and encouragement in persuing various scientific activities, on the other hand, there is more pressure on deprived females who are likely to avoid those situations that hold threat of failure.

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Thus, we can say that the various reasons accounting for sex differences between two social groups could be the socialization, training, environment factor, motivation and sex performance.

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Influence of Jelligence, Introversion-Extroversion, Attitude Towards Teaching Profession and Their Interactions on Non-Verbal Creativity and its Components of B.Ed. Students

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INTRODUCTION

The progress of any Nations depends to a great extent upon the development of people in respect of cognitive, affective and psychomotor domains. Among these, the development of cognitive domain contributes maximum in social, political and economical developments. In other words, the higher mental abilities are to be developed keeping in mind National development. Creativity is a higher mental ability. Its contribution in the development of various fields cannot be undermined. Looking to the importance of creativity, various researches have been carried out related to correlates of creativity. Creativity has been studied in relation to age, birth order, sex, locality, socio-economic status, academic subjects, intelligence, scholastic achievement, values and personality, creativity has been studied in relation to Intelligence by Raina (1968), Trivedi (1969), Passi (1972), Sharma (1971), Sharma (1972, 1974), Bedi (1974), Goyal (1974), Joshi (1974), Dhaliwal and Saini (1976) Dutt et al. (1977) Gakher and Kaur (1977), Singh, Mathur and Saxena (1977), Singh (1978), Patel and Joshi (1978), Badrinath and Satyanarayan (1979), Gulati (1979), Gupta (1979), Jarial (1972), Sandhu (1979), Jarial and Sharma (1980), Gakher et al. (1980), Chadha and Sen (1981), Kalia (1985), Reddy and Reddy (1983), Basu (1983) Bharadwaj (1985), Bharadwaj and Sharma (1986), Joshi and Joshi (1986) and Sansanwal and Jarial (1987), Introversion-extroversion trait of personality was studied in relation to creativity by Chauhan (1977), Kumar (1981), Srivastava (1978), Gulati (1979), Bhargava (1979), Jarial and Sharma (1980 1981) and Kalia (1985), From here it is evident that creativity and its components were not studied in relation to attitude towards teaching profession. Not only this, the influences of various interactions between intelligence introversion-extreversion and attitude towards teaching profession on creativity and its various components have not been investigated. The present study attempts to fill this gap.

Objective : The present study was carried out with a view to find out the effect of intelligence, attitude towards teaching profession, personality and their interactions on

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Non-verbal Creativity and components, like, fluency, flexibility, elaboration and originality.

Hypotheses: The following null hypotheses were stated for the present investigation.

1. There is no significant effect of intelligence on Non-verbal creativity and its components-fluency, flexibility, originality, and elaboration.

2. There is no significant effect of attitude towards teaching profession on Non-verbal creativity and its components-fluency, flexibility, originality and elaboration.

3. There is no significant effect of personality on Non-verbal creativity and its components-fluency, flexibility, originality and elaboration.

4. There is no significant effect of interaction between intelligence and attitude towards teaching profession on Non-verbal creativity and its components-fluency, flexibility, orginality and elaboration.

5. There is no significant effect of interaction between intelligence and personality on Non-verbal creativity and its components-fluency, flexibility, orginality and elaboration.

6. There is no significant effect of interaction between attitude towards teaching profession and personality on Non-verbal creativity and its components-fluency, flexibility, originality and elaboration.

7. There is no significant effect of interaction between intelligence attitude towards teaching profession and personality on Non-verbal creativity and its components fluency, flexibility, originality and elaboration.

Sample: The sample consisted of 563 B.Ed. student teachers studying in three institutions. The three institutions were department of Education, Devi Ahilya Vishwavidhalaya, Indore; Government College of Education, Ujjain and Government College of Education, Dewas. Both the Government colleges of Education were affiliated to Vikram University, Ujjain. These student teachers belonged to 1982-83, 1983-84 and 1985-86 academic sessions. The sample was represented by both inservice as well as pre-service teachers. The official medium of instruction is Hindi. The subjects of sample belonged to both science and arts disciplines. They were graduates as well as post-graduates. The subjects represented different socio-economic strata.

Tool In the present study Attitude Towards Teaching Profession, Intelligence, Creativity and Extraversion-Introversion traits of personality were measured by using standardised tests. For measuring Attitude Towards Teaching Profession, Attitude Towards Teaching Profession Scale by V.V. Katti and C.S. Bannur was used. The scale was developed for the secondary school teachers. It consisted of 40 statements with five point scale. The subjects were to read the statement and select one out of the five options given against each statement The five choices were : strongly Agree (SA), Agree (A), Undecided

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(UD), Disagree (D) and Strongly Disagree (SD). The split-half reliability coefficient was 0.76, while the self correlation of the scale at full length was 0.96. Intelligence of the subjects was measured by using Advance Progressive Matrices by J.C. Raven. This test was developed for adults. The test comprised of set I and Set II. With adults Set I can be used as a short ten minute test. It is also used as a practice test before starting Set II. On the other hand Set II provides a means of assessing the analytical and integral operations involved in the higher mental thought processes and differentiates clearly between people of even superior intellectual ability. The Set I comprised of twelve items while Set II comprised of 36 items. In bo h the sets the subjects selected from multiple options given below each design. The number of items correctly solved by the subjects in set II constituted the score for the intelligence. There was no time limit for this test. The test-retest reliability co-efficient was 0.91.

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Eysenck Maudsley Personality Inventory (MPI) Hindi version by Jalota and Kapur was used to measure Extraversion-Introversion dimension of personality. This inventory can be used as a group or an individual for adolescents and adults. There was no time limit but students took approximately 20 minutes. The inventory consisted of forty-eight items. Against each item, three choices were given, namely, 'Yes' ? and 'No'. The students were to read the statement and select any one from the three given choices. The scoring was done as per instructions given in manual.

Creativity of the subjects was measured by using No-verbal (figural form-B) Torrance Test of Creative Thinking (TTCT) by E.P. Torrance. This test measures the four aspects of creativity. These are fluency, flexibility, elaboration and originality. In the present study these four aspects and total creativity was taken into consideration. The score for total creativity was determined by adding up the scores for the four categories. TTCT can be used with subjects from elementary school to graduate school. The tasks included in the tests were kept open ended. The time of the test was 30 minutes. It's interscorer reliability was 0.90. The co-efficient of correlation between forms A and B of figural tests ranged from 0.60 to 0.81 respectively. Guidelines given in the manual provide for objective scoring. Thus, these guide lines were used for scoring the responses of subjects.

Procedure of Data Collection : The subjects were administered standard rogressive Matrices, Maudsley Personality Inventory (MPI), Attitude Towards Teaching Profession and Non-verbal Torrance Test of Creative Thinking (TTCT) for measuring intelligence, per-sonality, attitude towards teaching profession and non-verbal creativity respectivily. These tests were administered separately on different days. There was no time limit for the administration of MPI and Attitude Towards Teaching Profession, where as, 40 minutes were given for Standard Progressive Matrices and 30 minutes for TTCT. The scoring was done as per instructions given in manuals.

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RESULTS AND DISCUSSION

In this study intelligence, attitude towards teaching profession and personality were the independent variables. There were three levels of intelligence, namely, high intelligence (HI), average intelligence (AI), and low intelligence (LI). Also, there were three levels of attitude towards teaching profession, viz., high, average and low favourable attitude towards teaching profession. These variables were divided into three levels on the basis of Mean ± Standard deviation. The personality had two levels, viz., extraversion and introversion. The dependent variables were fluency, flexibility, elaboration, originality and total creativity. The data for each dependent variable were analysed separately with the help of $3 \times 2 \times 3$ factorial design analysis of variance of unequnal cell size. The results are given separately for each dependent variable.

Fluency : The effect of intelligence, attitude towards Teaching Profession, personality and their various interactions on fluency were studied by analysing the data through $3 \times 2 \times 3$ factorial design ANOVA of unequal cell size. The results are presented in table-1

Table-1 Summary of ANOVA for Fluency.

Source of Variation	df	SS	MSS	F
Intelligence	2	21·65	10 82	0·18
Personality	1	7·36	7·36	0·12
Attitude Towards Teaching Profession	2	36·89	18·44	0·31
Intelligence X Personality	2	55·07	27·53	0.46
Personality × Attitude towards Teaching Profession	2	80·82	40·41	0·67
Intelligence X Attitude towards Teaching Profession	4	85·97	21·49	0·36
Intelligence X Personality X Attituide towards Teaching Profession	4	690.92	172·73	2·88*
Error	546	32701.92	59·89	
Total	563			

*Significant at 0·05 level.

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From Table 1, it can be seen that except X F-value for interaction between intelligence, personality and attitude towards teaching profession, all F-values are less than 1 and not significant. It shows that there was no significant effect of intelligence, personality, attitude towards teaching profession, interaction between intelligence and personality, personality and attitude towards teaching profession, and intelligence and attitude towards teaching profession on fluency aspect of creativity. The null hypotheses stated in respect of these variables have not been rejected. The F-value for interaction between intelligence, personality, attitude towards teaching profession is 2 88 (Vide Table1). This value is significant at 0·05 level with df equal to 4/546. It indicates that the interaction between intelligence, personality and attitude towards teaching profession produced significant effect on fluency of students. In this context the null hypothesis, namely, there is no significant effect of interaction between intelligence, personality and attitude towards teaching profession is rejected. It can be seen that in case of introverts as the intelligence decreases from high to average the fluency mean score increases sharply, but it decreases sharply as the intelligence further decreases from average to low level in case of students having highly favourable attitude towards teaching profession. On the other hand, students having average favourable attitude towards teaching profession their fluency slightly increases as their intelligence decreases from high to average and it further slightly decreases as the intelligence decreases from average to low. Lastly, the introverts having low favourable attitude towards teaching profession, their fluency sharply decreases as the intelligence decreases from high to average and it still continues to decrease but slightly as the intelligence decreases from average to low. On the otherhand in case of extroverts having high favourable attitude towards teaching, the fluency decreases sharply as the intelligence decreases from high to low. Whereas in case of extroverts with average favourable attitude towards teaching the fluency scores increased steadily as the intelligence decreases from high to low. Lastly in case of extroverts having low favourable attitude towards teaching profession, the fluency scores increased steadily as intelligence decreases from high to low. From here it may be said that extrovests having high favourable attitude towards teaching profession and highly intelligent were more fluent. The next in the order were extroverts having Low favourable attitude towards teaching profession and possessing low intelligence. On the other hand introverts having low favourable attitude towards teaching profession and highly intelligent were more fluent.

Flexibility : The data related to flexibility were analysed through $3\times2\times3$ factorial design ANOVA of unequal cell size and the results are given in Table-2.

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Table-2 : Summary of $3 \times 2 \times 3$ Factorial Design ANOVA for Flexibility.

Source of Variation	df	SS	MSS	F
Intelligence	2	0·31	0·15	0·009
Personality	1	31·95	31·95	1·94
Attitude Towards Teaching Profession	2	83·97	41·98	2·55
Intelligence X Personality	2	26·48	13·24	·80
Personality X Attitude Towards Teaching Profession	2	0·52	0·26	0·01
Intelligence X Attitude Towards Teaching Profession	4	48·45	12·11	0·73
Intelligence X Personality X Attitude Towords Teaching Profession	4	22·81	5·70	0·34
Error	546	8999·04	16·48	
Total	563			

From Table-2, it can be seen that all *F*-values are not significant. It indicates that flexibility a component of non-verbal creativity is independent of intelligence, personality, attitude towards teaching profession and their various interactions. Thus, all the null hypotheses in respect of flexibility are not rejected.

Elaboration : The data related to elaboration aspect of non-verbal creativity were analysed with the help of $3 \times 2 \times 3$ factorial design ANOVA of unequal cell size. All results are given in Table-3.

Table- : Summary of $3 \times 2 \times 3$ Factorial Design ANOVA for Elavoration.

Source of Variation	df	SS	MASS	F
Intelligence	2	241 62	120·81	3·60*
Personality	1	9·77	9·77	0·29
Attitude Towards Teaching Profession	2	105·31	52·62	1·57
Intelligence X Personality	2	82·95	41·46	1·23

Contd

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Personality X Attitude Towards Teaching Profession	2	149·45	74·72	2·23
Intelligence X Attitude Towards Teaching Profession	4	84·71	21·18	0·63
Intelligence X Personality X Attitude Towards Teaching Profession	4	227·96	56·99	1·70
Error	546	18317·46	33·55	
Total	563			

* Significant at 0·05 level.

From Table-3, it can be seen that except *F*-value for intelligence, all other *F*-value are not significant. It shows that there was no significant effect of personality; attitude towards teaching profession, interaction between intelligence and personality; personality and attitude towards teaching profession; intelligence and attitude towards teaching profession; and intelligence, personality and attitude towards teaching profession on elaboration aspect of creativity. The null hypotheses stated in respect of these variables have not been rejected.

The F-value for intelligence is 3·60 (vide Table 3). This value is significant at 0·05 level with df equal to 2/546. It indicates that intelligence produced significant effect on elaboration aspect of creativity. Therefore, the null hypothesis, namely, there is no significant effect of intelligence upon elaboration of students is rejected.

To ascertain inter-group differences in respect of elaboration of the students belonging to different levels of intelligence, the data were further analysed with the help of t-test. The t-values obtained for this purpose are given in Table 4.

Table-4 : Mean, S. D. and '*t*' value for the three groups.

	M	SD	N	HI	AI	LI
HI	16·65	10·22	96	—	1·90	2·04*
AI	14·45	9 02	359			·55
LI	13·93	8·59	108			

* Significant at 0·05 level.

Table 4 reveals that the t-value obtained for the difference of mean elaboration scores belonging to high intelligent group and low intelligent group is 2·04. This value is significant at 0·05 level with df equal to 202. Since the mean elaboration score (16 65)

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of high intelligent students is higher than the mean elaboration score (8·59) of low intelligent students, it may be concluded that high intelligent students were superior with respect to elaboration aspect of non-verbal creativity than low intelligent students.

The remaining two values are not significant. It signifies that high intelligent students and average intelligent students did not differ significantly in respect of elaboration and the same is the case with average intelligent and low intelligent students.

Originality : The data related to originality aspect of creativity were analysed with the help of $3 \times 2 \times 3$ factorial design ANOVA of unequal cell size. The results are given in Table 5.

Table-5 : Summary of $3 \times 2 \times 3$ Factorial Design ANOVA for Originality.

Source of Variation	df	SS	MSS	F
Intelligence	2	40·88	20·44	1·44
Personality	1	19·34	19·34	1·36
Attitude Towards Teaching Profession	2	36·26	18·13	1·27
Intelligence X Personality	2	96·17	48·08	3·38*
Personality X Attitude Towards Teaching Profession	2	57·59	28·79	2·02
Intelligence X Attitude Towards Teaching Profession	4	49·39	12·35	0·87
Intelligence X Attitude Towards Teaching Profession X Personality	4	38·68	9 67	0·67
Error	546	7767·42	14·23	
Total	563			

* Significant at 0·05 level.

From Table 5 it may be observed that except F-value for interaction between intelligence and personality, all other F-values are not significant. It shows that there was no significant effect of intelligence, personality, attitude towards teaching profession, interaction between personality and attitude towards teaching profession intelligence and attitude towards teaching profession and intelligence, attitude towards teaching profession and personality on originality of students. In this context the null hypotheies stated in respect of these variables have not been rejected.

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The *F*-value for interaction between intelligence and personality is 3 38 (vide Table 5) This value is significant at 0 05 level with df equal to 2/546. It reflects that interaction between intelligence and personality produced differential effect on the originality of the students is rejected. In order to see the trend of influence of interaction between intelligence and personality.

Total Creativity : The data related to total creativity were analysed with the help of $3 \times 2 \times 3$ factorial design ANOVA of unequal cell size. The results are given in Table-6.

Table-6 : Summary of $3 \times 2 \times 3$ Factorial Design of ANOVA for Total creativity.

Source of Variation	df	SS	MSS	F
Intelligence	2	246·77	123·38	0·51
Personality	1	14·71	14·71	0·06
Attitude Towards Teaching Profession	2	83 45	41·72	0·17
IntelligenceX Personality	2	425·76	212·88	0·88
Personality X Attitude Towards teaching Profession	2	25·01	12·50	0·05
Intelligence XAttitude towards teaching Profession	4	840 59	210·15	0·87
Intelligence X Personality X Attitude towards Teaching Profession	4	1351 27	337 82	1·40
Error	546	131878·4	241·53	
Total	563			

From Table 6 it may be observed that none of the F-values are significant. This means that there was no significant effect of intelligence, personality, attitude towards teaching profession, interaction between intelligence and personality, personality and attitude towards teaching profession, intelligence, and attitude towards teaching profession and intelligence, personality and attitude towards teaching profession on the total creativity of the students. In this context, the null hypotheses stated in respect of these variables have not been rejected.

DISCUSSION

Intelligence was found to influence elaboration. That is, high intelligent students were faund to possess significantly high elaboration ability as campared to low intelligence students. Torrance (1968) said that imagination and exposition of detail is a

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function of creative ability, appropriately labeled elaboration. Intelligent persons can extend their imagination as well as expose the details of present result.

There was a significant influence of interaction between intelligence and personality on originality ability of students. Highly intelligent introvert students possessed significantly more originality as compared to highly intelligent extrovert students. This may be due to the fact that introverts do not use their talent unnecessary. They don't like to show and expose themselves. They use their energy in appropriate situations. Such behaviours of highly intelligent introverts might help in possessing high originality.

Lastly, there was a significant influence of interaction between intelligence, personality and attitude towards teaching profession on fluency of students. Highly intelligent introverts having low favourable attitude towards teaching profession were found to be highly fluent and so also the case with highly intelligent extroverts having high favourable attitude towards teaching profession. On an average teachers are introverts by nature but there may be exceptions. Teachers have to be more fluent in their ideas because the situation demands. The sample under investigation was student teachers. Thus, this explains the present result.

CONCLUSIONS

1. Intelligence was found to influence elaboration ability of students.
2. There was a significant influence of interaction between intelligence and personality of students on originality. Highly intelligent introverts were found to possess high originality in companision to highly intelligent extroverts.
3. Highly intelligent introverts having low favourable attitude towards teaching profession were found to be highly fluent and so also the case with highly intelligent extroverts having high favourable attitude towards teaching profession.

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Effectiveness of Inductive Strategies of Teaching Mathematics on Achievement and Attitudes of Students in Relation to Sex and Intelligence".

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The present study was conducted to compare the effectiveness of inductive strategies of teaching mathema ics on achievement and attitudes students in relation to sex and intelligence. The results of analysis of variance (2 × 2 × 2) indicated no significant difference in the efficacy of inductive strategies of teaching. Both the variables, i.e. intelligence as well as sex did not account for differential achievement in mathematics. None of the intelligence level and modes of instruction as well as sex and modes of instructions showed significant interactional effect on achievement. However, a significant interaction was identified among sex, intelligence and inductive strategies of teaching mathematics in terms of achievement. Attitudes of both the groups did not differ significantly.

INTRODUCTION

In the present age of science and technology. Mathematics holds key and pvotal position. People can go along without their mother tongue but not without calculations It has led men towards progress and prosperity. The progress and welfare of nation. depends upon the quality of education. In a world where things are changing very fast, proper development of spirits of mathematics is essential. Proper spirit can be developed with the help of methods of instructions. Due to individual differences, teachers of mathematics require different teaching strategies for themselves to be taught as no one method of teaching is sufficient. Though many a research has been undertaken in the field of modes of instruction, i. e., Dev, S K. (1979), Gupta, B. S. (1979), Kumar, A. (1985), Miyan, M. (1982) Yadav R. S., (1980), Nair, R. S. (1985), but very few studies, *i. e.* Chander, S. (1979), Chitkara, M. (1985), has been undertaken in the field of modes of instruction with sex and intelligence as variables.

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The present study was an attempt to compare the effectiveness of inductive strategies of teaching mathematics on achievement and attitudes of students in relation to sex and intelligence.

Hypotheses : The following research hypotheses were tested through this study :

1. There will be no difference in the efficacy of Inductive and Deductive strategies of Instruction.

2. There will be a significant difference in the attitudes among students instructed throu h inductive and deductive strategies.

3. Sex does not account for differential achievement in Mathematics.

4. Intelligence does not significantly effect achievement in Methematics.

5. There is no significant interaction between sex and inductive strategies of instruction.

6. There is no significant interaction between sex and intelligence level of students.

7. There is no significant interaction between intelligence and inductive strategies of instruction.

8. There is no significant interaction between sex, intelligence and inductive strategies of instruction.

Sample : A sample of 128 'X' grade students (64 boys and 64 girls) studying in four high schools of Ambala city and Cantt. was selected. The cluster random sampling method was used by taking the classification as a cluster.

Description of Tools : The following tools were used collect the data General Mental Ability Test developed by Dr S. Jaloto was used to assess intelligence. Locally developed attitude scale was used by the Investigater. Achievement Test the performance of the students. The test consisted of 20 item designed to measure knowledge, comprehension and application aspects.

Design of the Experiment : The present study was completed in three phases. In the first phase. the general mental abllity test and achievement as pre-test were administered to the total sample. In the second phase, Group I was taught through Inductive method and Groups II was exposed through Deductive method. The contents of the lessons was the same. In the final phase, post-test was administered to measure, their achievement. An opinionnaire was also administered to both the groups to know their attitude towards inductive strategies of Mathematics.

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Statistical Design : The data were analysed using both descriptive as well as as inferential statistics. To test the hypotheses, $(2 \times 2 \times 2)$ analysis of variance technique was applied to achievement gain scores chi-square was also applied to test the attitudes of both the groups.

RESULTS

The results of analysis of variance and chi-square shown in Table I and II respectively :

Table-I : Summary of Analysis of Variance.

Source of Variation	df	SS	Mean Squares	F
Methods (A)	1	78·125	78·125	1·89
Sex (B)	1	30·031	30·031	0·72
Intelligence (C)	1	19·531	19·531	0·47
Methods X Sex (A × B	1	16·531	16·531	0·40
Sex X Intelligence (B × C)	1	78·125	78·125	1·89
Methods × Intelligence (A × C)	1	42·781	42·781	1·03
Methods × Sex × Intelligence (A × B × C)	1	253·126	253·126	6·12*
	121	4999·25	41·316	
Total	128	5517·5		

* Significant at ·05 level.

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Table-II : Showing attitudes of two groups.

Groups	% of Positive attitude	% of Negative attitude	% of Neutral attitude	Total
Group-I	(57·05)	(36·6)	(6·35)	
	55·6	36·7	7·7	100 00
Group-II	(57·05)	(36·6)	(6·35)	
	58·5	36·5	5·0	100·00
Total	114·1	73·2	12·7	200 00

Chi-square value=0 648, insignificant.

Major Findings of the Study : The following were the Major findings of the study :

1. No significant difference was found in the efficacy of inductive and deductive strategies of teaching.
2. Intelligence was found to be a redutant factor so far as achievement was concerned.
3. Sex did not account for the differential achievement in Mathematics.
4. Attitudes of group did not differ significantly.
5. Sex and levels of intelligence interacted interacted insignificantly on achievement.
6. None of the intelligence levels and modes of instruction showed significant interactional effect on achievement.
7. Sex and modes of instruction interacted insignificantly on achievement.
8. A significant interaction was idntified among sex, intelligence and inductive stra e-gies of teaching Mathematics in terms of achievement.

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A Comparative Study of managerial Role Stress Personality, Motives, Managerial Styles, Organizational Climate and Job Satisfaction.

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In this study two extreme groups on the Managerial Role Stress were compared with respect to their Personality, Motives, Managerial styles, Organicational Climate and Job satisfaction. The results were interpreted and discussed with particular reference to the differences, indicating significant implications.

INTRODUCTION

In the recent past the role stress of the manager has been considered to be the key to the organizational accomplishment (1970). With the realization of the importance of stress (Selye, 1957), managerial role stress models were developed by Kahn (1970) House (1980) and others. It comprised of (a) Social conditions. (b) perceived stress, (c) responses to stress, (d) enduring outcomes of stress and (e) individual and situational (conditioning) variables influencing the relationships among these factors. The work has been extensively reviewed by Sharma (1988) and Pestonjee (1990).

The model of Personality proposed by Eysenck (1976) as 'more or less stable and enduring organization of aperson's character, temperament, intellect and physique which determines his uniqe adjustment to the environment' has been included in this study. The Motives, as measured by Misra & Tripathi (1980) in terms of Achievement, Power Affiliation and Approval were considered to be the motivational factors associated with Managerial stress. The Managerial styles-as per Hersey and Blanchard (1985) of an individual is the behaviour pattern that a person exhibits when attempting to influence the activities of others as perceived by others-have been known to determine managerial role stress. The organizational climate-the characteristics of the organization as perceived by its members-has been taken to be a major situational factor responsible for the managerial role stress. In addition job satisfaction has been viewed as one of the most relevant correlate of stress. Srivastava (1974) defined it as the attitudes people hold toward their job.

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The present investigation aimed at finding differences among two extreme groups role stress with regard to their personality, Motives, Managerial styles Organizational climate and Job satisfaction.

METHOD

The sample included two extreme groups of (20 each male middle level managers of private organizations, in the age range of 30 to 40 years, selected out of larger group of 80 Ss.

The following standardized tests were used in the study :

1. Managerial Role Stress Inventory. (Ravi Kumar, 1984).
2. Eysenck Personality Questionnaire (Eysenck & Eysenck, 1975).
3. Questionnaire measures of need (Misra & Tripatthi, 1980).
4. Reddin's Managerial Position Analysis Test (Reddin 1985)
5. Organizational Climate Measure (Sinha. 1980).
6. A Scale of Job satisfaction by Lahiri & Srivastava (1967).

RESULTS AND DISCUSSION

Table-I : Total N=80

	High (20) Role Stress		Low (20) Role Stress		t-Value significance
	M	SD	M	SD	
1. Extcaversion	11·10	4·27	14·62	4·88	−3·21**
2. Neuroticismm	10·14	3·22	7·23	4·17	4·11**
3. Psychoticism	6·22	1·27	4.84	2·01	1·12
4. Social Desitability	11·91	2·11	9·75	2·12	1·19
5. Need-Achievement	4·17	1·84	3·98	1·17	2·67*
6. Need-Power	4·41	2·29	3·72	1·98	2·23*
7. Need-Affiliation	3·91	2·82	3·52	3·26	1·27
8. Need-Approval	2·92	1·41	2·11	1·12	0·89
9. Deserter Style	13·07	4·22	13·21	4·01	1·29
10. Missionary Style	21·24	5·11	19·78	5·29	2·77*
11. Autocrat Style	21·11	3·82	19·21	4·27	2·66*
12. Compromiser Style	22·02	3·82	19·38	3·99	2·71*

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13. Bureaucrat Style	16·21	3·21	15·61	3·27	·98
14. Developer Styler	24 14	4·82	22·33	4·64	1·12
15. Benevolent-Autocrat Style	22·22	4·14	10·87	3·95	1·27
16. Executive Style	14·07	4·02	10·24	3·71	2.89*
17. Authoritraian Climate	59·27	6·89	49·17	5·42	3·87**
18 Authoritative Climate	48·14	5·92	54·73	5·59	3·61**
19 Job Satisfaction	182·41	28 22	227·14	32·18	4·21**

Two extreme groups, falling in the top and bottom 25 per cent of the subjects, scoring high or low on role stress were compared to yield the results reported in table-1. The high stress group was found to score lower on Extraversion, Deserter Style and Job Satisfaction but higher on Neuroticism, Psychoticism. Social Desirability ; Needs for Achievement, power, Affiliation and Approval ; on Missionary, Autocrat, Compromiser Beauracrat, Developer, Benevolent-Autocrat and Executive Styles and perceiving the organizational climate to be more authoritarian rather than authoritative.

The *t*-values were found to be significant in the case of following parameters only i.e. Extraversion, Neuroticism ; Needs for Achievement and power ; Autocrat, compromiser and Bureaucrat and Executive Styles ; organizational climate and Job Satisfaction. These findings confirm the expectations based on studies by Lahiri and Srivastava (1967), Rawi Kumar (1984), Sinha (1980), Misra and Tripathi (1980), Reddin (1985) and Mohan and Jahangiri (1985). Howeveer, the results of the present study emphasize the need for further exploration in this area.

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"Correlates of Achievement Motivation"

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INTRODUCTION

This study was undertaken with the primary aim of studying the relationship of Achievement motivation with Intelligence, Socio-economic Status, Adjustment, Level of Aspiration and Academic Attainment on the basis of scores of High School Students. Forthis purpose test of General Mental Ability prepared by M. C. Joshi. Test on the level of Aspiration prepared by C. B. Dwivedi, Prayag Mehta's Achievement values and Auxity Inventory. Saxena's Adjustment Inventory were used for determining the socio-economic status of the students a questionnaire on socio-economic status was prepared by the researcher. Scores of the subjects in Hindi were taken as academic performance of students.

The analysis of data was done through Mean, S. D., Percentile, C. R., Prouct. Moment correlation and Regression coefficients. Standard Error of Estimate, effect of addition of variables on the multiple correlation, F-ratio for boys & girls was also worked out. This study was confined to the Eastern Uttar Pradesh which covers nine districts. 500 students (300 boys and 200 girls) served as subjects. It was observed that Achievement-Motivation of boys and girls is highly correlated with Intelligence and Achievement. Among the five correlates of Achievement Motivation Academic achievement proved to be the most influential factor.

Motivation plays a vital role in life. Motives set an individual into action and infact, it is the mover and it energize his activity. The present century has rightly been called the century of motivation whether in education or in Industry. Achievement-motivation has been reffered to as the need for achievement, a wish to do well. It refers to the behaviour of an individual, who strives to accomplished something remarkable to do his test to excel others in performance. Achievement-motivation in essential for better academic attainment to be assessed on the basis of scores of High School students.

Aims of the Present Study

i. To make a comparative study of Achievement motivation of boys and girls.

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ii. To study the degree of relationship between n-Achievement and Intelligence, Socio-economic status, Adjustment, Level of Aspiration and Academic attainment on the basis of scores of boys and girls separately.

iii. To determine the amount of effect of Intelligence, S E. S., Adjustment, level of Aspiration and Academic attainment on Achievent-motivation scores of boys and girls separately.

iv. To predict the n-Achievement scores of students on the basis of their scores in independent variables.

METHODOLOGY

The following tests and quests and questionnaires were used :

(*i*) *Test on General Mental Ability* : To study the inteiligence level of High School student the General Mental Ability Test prepared by M. C. Joshi was used.

(*ii*) *Test on Level of Aspiration* : The test on Level of Asbiration prepared by C. B Dwivedi (1974) was used for studying the level of Aspiration of High school students of both the sexes.

(*iii*) *Achievement values and Anxiety Inventory (AVAI)* : AVAI Prepared by Prayag Mehta (1969) was used to determine the level of Achievement-Motivation in the High school boys and girls.

(*iv*) *Adjustment Inventory* : Sazena's Adjustment Inventory was used for the personality adjustment of High School boys and girls.

(*v*) *Questionnaire of Socio-economic Status* : This questionnaire was prepared to determine the socio-economic status of High School students.

(*vi*) *Achievement Scores* : Scores of the selected students in Hindi in High School examination were taken as it was the only compulsory subject.

Sample : This study is confined to Varanasi Division which covers five districts : Varanasi, Mirzapur, Ballia, Jaunpur and Ghazipur. Ultimately sampling was resorted to. In all 500 students (300 boys and 200 girls) were selected.

RESULTS AND DISCUSSION

1. Boys and girls showed low (average) level of achievement motivation. Most of them, secured Poor mark in the AVAI. No significant difference in the average scores of boys and girls in achievement motivation was found.

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Table-1 Critical Ratio for the Difference in the Mean Scores of Boys and Girls in AVAI.

Groups	M1 – M2	od	C.R.
Boys – Girls	4·50 - 5·22.	1·29	2·42 (Significant at 0 05

(ii) The scores of boys in Achievement motivation appeared to be significantly correlated with the scores in Intelligence, socio-economic condition, adjustment and Hindi achievement.

Table-2 : Correlation Matrix of Boys (N=300).

	AVAI	Intelligence	S.E.S.	Adjustment	Level of Aspiration	Academic Attainment
AVAI	—	0·39	0·12	0·14	0·08*	0 56
Intelligence	0·29	—	0 23	0·36	0·19	0·64
S. E. S.	0·12	0·23	—	0·35	0·07*	0·12
Adjustment	0·14	0·36	0·35	—	0·03*	0·10*
Level of Aspiration	0·08*	0·19	0·07*	0·03*	—	0·17
Academic Attainment	0·56	0·46	0·12	0·10*	0·17	—

* Correlation Coefficients less than 0 113 are insnigificant (Based on Garreff's) Book-Statistice in Psy, and Edu. 1967. p 201.

iii. AVAI scores of girls appeared to be significantly correlated with only two variables, namely, intelligence and academic attainment

Table-3 : Correlation Matrix of Girls (N=200).

	AVAI	Intelligence	S E S.	Adjustment	Level of Aspiratihn	Academic Attainment
AVAI	—	0 27	0·05*	0·07*	0·11*	0·63
Intelligence	0·27	—	0 25	0·40	0·08*	0·36
S. E. S	0 05*	0·25	—	0·30	0·19	0·05*
Adjustmeat	0·07*	0·40	0·30	—	0 02*	0·19

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Level of Aspiration	0·11*	0·08*	0·19	0·02*	—	0·03*
Academic Attainment	0·63	0·36	0·05*	0·19	0·03	—

* Correlation Coefficients less than 0·138 are insignificant (Based on Garrett's) Book-Statistics in Psy. and Edu. 1967 p. 201.

iv. The regression coefficient calculated for the scores of girls in AVAI (Dependent variable) and the correlate (Independent variables) revealed that adjustment and achievement were making remarkable contribution to the variance in the AVAI scores.

v. The regression coefficients calculated from the scores of girls in AVAI (Dependent variable) and other variables (Independent) revealed that intelligence and achievement were making remarkable contribution to the variance.

vi. The amount of correlation between AVAI and academic achievement and the regression coefficient obtained for the achievement revealed that AVAI level of boys and girls could be predicted successfully from achievement marks alone.

Table-4 : Valves of *F*-ratio After Adding Each Predictor (for Boys).

Variable added	df	*F*-ratio	Significance
X_4 to X_2 and X_3	1 and 296	0·153846	Insignificant
X_5 to X_2, X_3 and X_4	1 and 295	0·296774	Insignificant
X_6 to X_2, X_3, X_4 and X_5	1 and 294	100·636	Significant at 0·01 level

Table-5 : Values of *F*-ratio After adding Each Predictor (for Girls)

Variable added	df	*F*-ratio	Significance
X_4 to X_2 and X_3	1 and 196	0·118493	Insignificant
X_5 to X_2, X_3 and X_4	1 and 195	1·6242	Insignificant
X_6 to X_2, X_3, X_4 and X_5	1 and 194	104·399	Significant at 0·01 level

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vii. Table 4 and 5 reveals that the F-ratio calculated from regression coefficients for Boys and Girls is significant at 0·01 level. It indicates that Academic Attainment can alone be used as predictor for the AVAI of Boys and Girls.

In this study it was observed that students of both sexes had low achievement motivation. It certainly presents unsatisfactory characteristics in the students. Achievement motivation of children could be raised through proper strategy (eg. cocurricular activities, competitions, encouragements by teachers and parents etc.).

This is the age of competition. Only those children would be successful in Academic performance and life situations who have determination for making excellence and reaching the top positions. Dull and mediocre children cannot get significant place and they would be forced to live ordinary life. It is necessary therefore to encourage the children develop the tendency of showing excellence and going ahead right from the early age.

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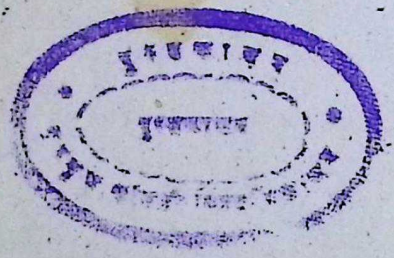

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